La 19-a Internacia Medicina Esperanto Kongreso

16-20 July 2014

CHRONIC DISEASES AS CHALLENGE FOR CONTEMPORARY SOCIETIES IN THE 21st CENTURY

19th INTERNATIONAL MEDICAL ESPERANTO CONGRESS

&

1st CENTRAL EUROPEAN BIOMEDICAL CONGRESS
16-20 July 2014, BUDAPEST, HUNGARY

2014

Cover design/Projekto de kovrilo

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Published by: ZOZ Ośrodek UMEA Shinoda-Kuracejo,
31-856 Kraków, os. Albertyńskie 1-2, Poland
office@interrev.com
Typeset: Jacek ROJOWSKI

ISBN 978-83-936591-2-8

WELCOME SPEECH
SALUTVORTOJ

CHOIR FŐNIX	Hymn, rolas: „Főnix" koruso el urboj Pécs /Komló
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PROF. DR. CSEH KÁROLY	Head of the Institute of Public Health, Semmelweis University Lecture: "Prevention and control of non-communicable diseases today"

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LA HISTORIO DE LA URBO KOMLÓ

La prahistorio de la urbo Komló komenciĝis en la antikva romia epoko. Aro da arkeologiaj fosaĵoj pruvas la ekziston de la tiamaj romiaj loĝlokoj en la proksimo (ekzemple en la vilaĝoj Mecsekjánosi, Mecsekfalu, kaj en la ĉirkaŭaĵo oni trovis restaĵojn de gardoturoj (gvatturoj). (Ili troviĝas de la vilaĝo Zobákpuszta ĝis Márévára.) Kiam en 1953 kaj 1954 oni komencis konstrui porindustrian fervojon en la proksima valo de Mecsekjános, malkovriĝis restaĵoj de granda, luksa ĝardendomo (vilao). Estis trovita interalie plugiltrena ĉeno kaj fera dentaro, uzata ĉe la prilaborado de lano, do oni povas konkludi, ke okazadis kaj agrara produktado kaj paŝteja bestobredado, kiuj agadoj supozigas, ke okazis abundaj arbardehakadoj. La historion de la urbo Komló – aŭtentike, do surbaze de dokumentoj – oni povas analizi ĝis la 13-a jarcento.

La unua oficiala dokumento, en kiu la loĝloko (setlejo) aperas per la nomo "Villa Comlov" devenas el 1256. Laŭ fontoj ne tute aŭtentikaj eĉ reĝo Stefano la unua vizitis la lokon Komló en 1015, en la tago de Sankta Maria (la 15-an de aŭgusto), kiam li partoprenis la inaŭguran solenon de la abatejo en la vilaĝo Pécsvárad. Tiutempe la vilaĝo estis la posedaĵo de la menciita benedikta abatejo. La teritorio ekde 1543 apartenis al la turka imperio. Kadre de la turka departemento ("sanĝak") de la urbo Pécs ĝi apartenis al la tribunala distrikto ("nahie") de la loko Pécsvárad. En 1697 la nombro de la loĝantoj en Komló entute estis nur 9 personoj.

La progreso de la mineja industrio esence influis la ŝanĝojn de la nombro kaj konsisto de la loĝantaro. La kreskado de la karboekspluatado bezonis pli kaj pli grandan nombron da laboristoj. El la du longaj periodoj de enmigrado la dua estis la pli grava, kiam Komló jam atingis la rangon de urbo. La loĝantaro ŝanĝiĝis ne nur laŭnombre, sed ankaŭ laŭ sia konsisto. En la jardeko de 1950 tie ekloĝis precipe viroj, kiuj trovis laboron ĉe la konstruadoj, minejoj aŭ en aliaj laborsferoj, poste alvenis enmigrantoj ne nur el ĉiu parto de Hungario, sed eĉ el eksteraj landoj. Laŭ statistiko, registrita en la jardeko de 1960, en Komló krom hungaroj vivis ne malmulte da germanoj, ciganoj, rumanoj, kroatoj, aliflanke sporade ĉeestis ankaŭ la reprezentantoj de slovakoj, serboj kaj aliaj ne menciitaj nacioj.

La novepoka historio de la urbo Komló kaj ĝia ĉirkaŭaĵo komenciĝis ĉe la miljara datreveno de la hungara ŝtatfondo (1896), kaj dum unu jarcento ĝi fariĝis la plej grava ekonomia, administracia, kultura kaj sanitara centro. Post pli ol unu jarcento, en 2000, en Komló ĉesis la subtera karbominado. Post kiam la lasta vagoneto da karbo elvenis al la tersurfaco, aperis situacio tute malsama ol la pli frua. Koncerne la ekonomion de la urbo komenciĝis nova epoko, kiu ne surprizis la loĝantojn, ĉar ili havis tempon prepari sin por la ŝanĝoj. Dank' al tiu antaŭvido la reformo de la industria strukturo komenciĝis jam en 1990, kaj ĝi daŭras eĉ nuntempe.

HISTORY OF GARAI CERAMICS

We are a ten-people handycrafts family business in Hódmezővásárhely. We have been dealing with ceramics since 1990, our roots go back to the local traditions.

We can find the characteristics of traditional and modern ceramics in our hand-molded, hand-painted products.

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We offer our products for everyday use and special occasions.

Sándor GARAI

THE POLISH PHARMACEUTICAL CHAMBER

The Polish Pharmaceutical Chamber was created in the summer of 1939. Because of the outbreak of the Second World War it began its activity only after the liberation of Poland, at the end of the war and continued until 1951, when the communist regime dissolved it and nationalized all community pharmacies in Poland in just one night. The idea to reconstitute pharmacy chambers as self-governing pharmaceutical bodies appeared during the period of political and economic changes at the end of the 1980s. In April 1991 the Act on Pharmaceutical Chambers was adopted by Sejm (the Polish Parliament). It took several months to organize the First National Pharmaceutical Congress, which took place in December 1991. It was only then that the structure of the chambers was adopted, authorities of the supreme Polish Pharmaceutical Chamber were elected, and main tasks of the Chamber for the first term were determined.

According to the above-mentioned Act the pharmaceutical chambers are self-governing professional bodies of pharmacists representing their professional, social and economic interests. Self-government of pharmacists is an independent organization and is subject to legal acts only. It consists of the supreme Polish Pharmaceutical Chamber and 22 regional chambers, all of which are separate legal entities.

The highest authority of the self-government is the National Pharmaceutical Congress which is convened by the Polish Pharmaceutical Chamber every 4 years. The key responsibilities of the National Pharmaceutical Congress include:

- development of principles of professional ethics and deontology;
- determination of the agenda of activities of the self-government until the next Congress;
- acceptance of financial activity principles of chambers;
- election of the authorities of the self-government; and
- revision and evaluation of the performance of self-government bodies in the previous term.

The Polish Pharmaceutical Chamber is the supreme authority of the self-government and consists of the Supreme Pharmaceutical Council, the Supreme Auditing Commission, the Supreme Pharmaceutical Court and the Supreme Professional Liability Commissioner.

The Supreme Pharmaceutical Council (45 members – 24 elected at the National Pharmaceutical Congress, 20 presidents of regional chambers and the President of the Council) co-ordinates the activities of the self-government and the National Congresses of Pharmacist, and in particular enforces the decisions of the National Congress, monitors correct implementation of the tasks of regional bodies, co-ordinates and supervises the activities of regional chambers, represents the profession of the pharmacist, gives opinions on legal acts concerning pharmacy as well as drafts internal regulations on the activities of the national and regional chambers. The Council's Presidium is its working body (at present 11 persons), consisting of the President of the Council (Grzegorz Kucharewicz Ph.D.), two vice-presidents

(Marek Jędrzejczak Ph.D. and Alina Fornal), the secretary (Tadeusz Bąbelek Ph.D.), the treasurer (Krzysztof Przystupa) and ordinary members.

The Polish Pharmaceutical Council is also an appropriate body to decide about the recognition of qualification of pharmacists according to the EU Directive 2005/36/EC.

The Supreme Auditing Commission controls financial and economic activities of the Main Pharmaceutical Chamber.

The Supreme Pharmaceutical Court decides on matters concerning professional liability of pharmacists and the Supreme Professional Liability Commissioner conducts investigation regarding professional responsibility.

The internal structure of regional chambers is similar to that of the national chamber.

Chamber membership is obligatory for all pharmacists who perform professional services according to the article 44 of the EU Directive 2005/36/EC. Active pharmacists have to register as members of their regional chambers and must hold the "Pharmacist's Professional License" issued by an appropriate regional chamber.

Pharmacists who have not been active for a total of five or more years during any 6 years, and who want to undertake their work as pharmacists must inform appropriate regional chambers and undergo complementary training lasting no longer than 6 months.

Pharmacists working in pharmacies (community or hospital) must constantly improve their professional qualifications and take part in a regular professional training scheme. It is necessary to collect 100 score points during a five year training cycle to fulfil this obligation. The number of score points for every educational activity is specified in a separate governmental regulation on life-long education.

All members of the self-government:

can elect and be elected to the pharmaceutical chamber bodies;

can refer to pharmaceutical chambers with any issues relating to their continuous professional development and safety conditions necessary to perform the profession of a pharmacist;

can refer to pharmaceutical chambers when in need of legal protection and any other form of assistance.

Professional conduct of self-government members can be revised by pharmaceutical courts on the grounds of contradicting the rules of professional ethics and deontology as well as legal pharmaceutical regulations. Pharmaceutical courts can pronounce the following sentences:

- a caution;
- a reprimand;
- a suspension of professional license for a period of 2 months to 3 years;
- a revocation of professional license.

The chamber's financial income is generated by obligatory membership fees, inheritances, endowments and donations, business activity and governmental subsidies covering costs of recognizing the right to perform profession and issuing the Pharmacist's Professional Licenses, keeping the register of pharmacists and the activities relating to professional liability of pharmaceutical courts and professional liability commissioners.

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THE POLISH PHARMACEUTICAL CHAMBER

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REGIONAL PHARMACEUTICAL CHAMBER IN CRACOW
ACTIVE YESTERDAY, ACTIVE TODAY

Pharmaceutical organizations already existed in Poland during the partitions period, and were particularly developed in the Austrian partition. Their offices were located in Lviv and Krakow. During the short period of Polish independence, in 1918-1939, there was a strong division between trade unions and owners of pharmacies. However those conflicted groups together tried to establish a single institution that would represent their common interests. That institution was to be the pharmaceutical chamber, which operates on the principle of self-governing. Work on the creation of that institution lasted several years and were finalized on 15 June1939 by the Polish Parliament and the announcement of the Law on Chambers of Pharmacists. It was enthusiastically received by all professionals and heralded a new era in the history of Polish pharmacy. Unfortunately, the outbreak of the Second World War prevented the organization of pharmaceutical chambers. Pharmaceutical Chambers began to form only after the end of the war, in 1945.

The Regional Pharmaceutical Chamber in Krakow was considered the best of the pharmaceutical chambers. In 1947, it was determined by the President of the Polish Pharmaceutical Chamber as the most active and exemplary acting. The Regional Pharmaceutical Chamber in Krakow has funded the restoration of the pharmaceutical department of the Jagiellonian University, has equipped its laboratories, sponsored scholarships and salaries for staff and students and paid for the maintenance of buildings. Social grants were paid to widows and children of pharmacists who died during the war. The Regional Pharmaceutical Chamber supported financially cultural institutions and charities, as well as organized scientific meetings and lectures. A little known fact is the financial and organizational support of the Regional Pharmaceutical Chamber in Krakow during the renovation of the famous altarpiece by Veit Stoss.

Tragic date in the history of the Regional Pharmaceutical Chamber in Krakow, and generally in the history of Polish pharmacy, was the day on January 9, 1951, when the government abolished at the same time pharmaceutical chambers and nationalized all the Polish pharmacies. For nearly 40 years the reactivation of pharmaceutical chambers was not possible, due to the centralized policy of the communist authorities. Only political changes in 1989 made it possible to return to the idea of pharmaceutical self-government. Already in April 19, 1991 Parliament approved the act, that was modeled in large part on the Act "Pharmaceutical Chambers" of 1939. It was established at the same time as the Organizing Committee of Pharmaceutical Chambers, which in just four months created the basis for the activities of a pharmaceutical self-government and pharmaceutical chambers.

Organization of the Pharmaceutical Chamber in Krakow started with the work of the Founding Committee. The first General Assembly of the Regional Pharmaceutical Chamber in Krakow was held in Krakow on November 9, 1991 and this day should be considered as the official date of the creation of the Regional Pharmaceutical Chamber in Krakow. The first years of operation of the Regional Pharmaceutical Chamber in Krakow coincided with a difficult

period of the rise of capitalism and democracy in Poland. Dozens of new pharmacies were established, which began to compete with each other mercilessly. This was a result of the possibility of opening a pharmacy by a person with no pharmaceutical education.

Currently the Pharmaceutical Chamber in Krakow is a functioning entity of the Polish pharmaceutical self-government. It has more than 3,000 members. The Regional Pharmaceutical Chamber in Krakow consist of the Presidium which is originated from the Regional Pharmaceutical Council, the Regional Pharmaceutical Court, Regional Professional Liability Commissioner and six committees. The Regional Pharmaceutical Chamber in Krakow carries out the tasks imposed by the state authorities and participates in the activities primed by the Polish Pharmaceutical Chamber. The Regional Pharmaceutical Chamber in Krakow works closely with territorial authorities, i.e. the pharmaceutical inspection, a division of the National Health Fund, Regional Medical Chamber, Polish Pharmaceutical Society and the Faculty of Pharmacy Jagiellonian University Medical College.

The Pharmaceutical Chamber in Krakow intervenes in everyday problems of pharmaceutical life, like the cases of breaches of ethics, or crossing rules and legislations for the pharmacy professions in Poland. Most often it applies to violations of the ban on advertising, performed by pharmacy chains, often in a hidden form. The Regional Pharmaceutical Chamber defends individual pharmacists who are most affected by competition and unfavorable legislation, thus Pharmacies of Pharmacists-Owner Rescue Club has been appointed. The Regional Pharmaceutical Chamber together with the Faculty of Pharmacy Jagiellonian University Medical College runs Internet portals “e-duk@cja” (e-duk@tion) and “e-pharmacy” (e-pharmacy). It makes possible regular professional training scheme conducted by e-learning. Furthermore, the Pharmaceutical Board in Krakow acts as an interface between the Faculty of Pharmacy Jagiellonian University Medical College, and pharmacies in whose the student internships are organized.

For seventeen years, the Pharmaceutical Chamber has published the journal "Farmacja Krakowska" (“Krakow Pharmacy”). It is sent to all members of the Chamber. Here you'll find news from the everyday life of local pharmacists, scientific and journalistic articles and historical studies. Furthermore, the Pharmaceutical Chamber Furthermore, the Pharmaceutical Chamber organizes cultural events for pharmacists as the annual New Year concerts and a popular picnic "Mixtura". You can also attend meetings with poets and social gathering of retired pharmacists. There is also the football team, starring members of the Pharmaceutical Chamber. Matches are played between teams of different chambers and pharmaceutical companies. In addition, Regional Pharmaceutical Chamber in Krakow submits its own representations to ski and sailing sports impres.

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AND CHAIRMEN OF SCIENTIFIC SESSIONS

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PLACE OF THE CONGRESS

CONGRESS VENUE/SIDEJO DE LA KONGRESO

Congress languages: English, Esperanto, Hungarian

19th INTERNATIONAL MEDICAL ESPERANTO CONGRESS
&
1st CENTRAL EUROPEAN BIOMEDICAL CONGRESS
16th - 20th of July 2014, BUDAPEST Hungary

MAIN THEME OF THE CONGRESS:

CHRONIC DISEASES AS CHALLENGE FOR CONTEMPORARY SOCIETIES IN THE 21st CENTURY

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PROGRAMM/PROGRAMO

2014.július 16-20-ig, 19. IMEK, Budapest részletes program
SZEKCIÓ ÜLÉSEK RENDJE
2014.július 16. Szerda– helye: Experidante Ház

16TH JULY, 2014 (WEDNESDAY)

9.00 REGISTRATION OF THE PARTICIPANTS

Transport of the participants (from the airport, central railway station, central bus stop and other indicated places) to the Congress Center
Registration at the Congress Center, OKISZ headquarters building, address:1146. Budapest, Thököly u.58-60

15.00 OPENING CEREMONY OF THE EXHIBITION IN OKISZ BUILDING

Exhibitions of: history of medicine, Icons, Esperanto books, paintings, painted stones.
Main sponsor: Prof. Dr George NANOVFSZKY retired Ambassador

16.00 OPENING CEREMONY OF THE 19TH IMEK IN THE EXPERIDANCE EVENT HALL

Experidance Residance address: 1146. Budapest, Ajtósi Dürer sor 19-21. sz. SOLEMN INAUGURATION OF THE 19th IMEK
Welcome Messages by the Honorary Congress Presidents and national delegates

KOMENCO DE LA SOLENA INAŬGURO DE LA KONGRESO

2014. július 16-án OKISZ**, helye**: 1146. Budapest, Thököly u.58-60

15.00 órakor Kiállítások megnyitójára: Orvostörténeti, ikon, eszperantó könyvek, festmények, festett kövek kiállítása,megnyitja:Prof. Dr .Nanovfszky GYÖRGY ny.nagykövet, fővédnök
Official opening ceremony starts at 16.00

16.00 órakor kezdődő ünnepi megnyitóra,
Inauguration place
helye: Experidance Rendezvényház, 1146. Budapest, Ajtósi Dürer sor 19-21.sz

Megnyitó ünnepség/Inauguration plan

1) **16.05 -16. 10**
   Főnix kamarakórus

Ünnepi köszöntők: Prelections

2) **16.10-16. 20**
   Prof. dr. SZÉL Ágoston Semmelweis Egyetem rektora, fővédnök
3) **16.20-16.30**
   Dr. FERENCZY Imre UMEA tiszteletbeli elnök
4) **16.30-16.35**
   Dr. Vadász GYÖRGY OKISZ elnöke
5) **16.35-16.50**
   Prof. dr hab. Piotr LAIDLER Krakkói Jagelló Egyetem retora

6) **16.40-16.50**
Prof. dr. Endre DUDICH, HEA tiszteletbeli elnök

7) **17.00-17.10**
The district of Zugló Mayor, Országok delegátusai köszöntői, Polgármesteri Hivatalok /Zugló és Komló/, Foraign Organistation representatives

8) **17.10-17.20**
Rafał JANCZURA International Group Product Manager in International Marketing Department, Gedeon Richter in Budapest

9) **17.20-17.35**
Prof. dr. Károly CSEH konferencia bevezető tudományos előadása: Inauguration lecture.
A nem-fertőző betegségek megelőzési stratégiája napjainkban/ **Prevention and control of non-communicable diseases today**

Az ünnepi megnyitót követő szünet után állófogadás a kongresszusi résztvevőknek és meghívott Vendégeknek. After the inauguration all the participants are invited to dinner.

18.30 DINNER FOR PARTICIPANTS AND THEIR GUESTS

17TH JULY, 2014 (THURSDAY)

9.00-11.00 DEPRESSION AS SYMPTOM OF DIVERSE COMMON DISEASES

Presidents of the section: Prof. dr hab. Andrzej PILC, Prof. dr hab. Gabriel NOWAK

1) Agnieszka PAŁUCHA-PONIEWIERA, Bernadeta SZEWCZYK, Andrzej PILC Activation of motor signaling pathway in the antidepressant-like activity of mglu5 antagonist, mtep and mglu7 agonist, amn082 in the fst in rats
2) Török ZSÓFIA, Terebessy ANDRÁS
Depression, thyroid diseases and iodine deficiency – how to screen?
3) Ewa POLESZAK, Anna SEREFKO Magnesium in depression and anxiety – latest news
4) Joanna M. WIEROŃSKA, Monika WOŹNIAK, Natalia KŁECZEK, Andrzej PILC
The antipsychotic-like action of mglu4 activators is serotonin-dependent
5) Urszula DOBOSZEWSKA, Beata OSTACHOWICZ, Mirosław KROŚNIAK, Agnieszka WOJTANOWSKA-KROŚNIAK, Bernadeta SZEWCZYK, Katarzyna MŁYNIEC, Gabriel NOWAK
The disruption of zinc, magnesium and iron homeostasis is associated with depressive-like behavior induced by dietary zinc restriction

11.15-12.15 PREVENTION 1 PART

Presidents of the section: Prof. dr. Károly CSEH, Dr. Lajos MOLNÁR

1) Vince PONGOR:
Perceived stigma in people living with hiv in hungary
HIV pozitív betegek önbecsült stigmája Magyarországon
Mem-taksita stigmato de HIV- pozitivaj malsanuloj en Hungario
2) Melinda PÉNZES:
Trends in alternative tobacco product experimentation among metropolitan adolescens – Nagyvárosi serdülők alternatív dohánytermék

kipróbálásának változásai – Ŝanĝoj en eksperimentado per alternativaj tabakproduktoj intergrandurbaj adoleskantoj

3) Júlia KONCZ
Comparison of psoriasis tratment results by its PASI (Psoriasis Area and Severity Index)-Score advances of bile-acid therapy – A pikkelysömör kezelési eredményeinek összehasonlítása kiterjedési és súlyossági jelzőszáma alapján (PASI-CORE) Az epesav terápiás előnyei – Komparado de kuracrezultoj de psoriazo surbaze de ĝia dimensia kaj graveca indico PASI. Avantaĝoj de terapio per galacido

4) Márton KISS, Péter CSÉPE, Judit FORRAI:
Health status and behaviour of the elderly romani population
Egészségi állapot és egészségmagatartás az idős roma populációban – Sanstato kaj sankonduto de pliaĝa romaa loĝantaro

5) Janik LEONARD:
The experiences of nosocomial surveillance usage – A nosocomiális surveillance alkalmazásának tapasztalatai

6) Szilvia BARCZI et al.:
Nutritional habits fourth year medical students – IV. éves orvostanhallgatók táplálkozási szokásainak vizsgálata – Ekzameno de nutriĝkutimoj de medicinstudentoj en la IV-a studjaro

11.15-12.15 RECENT ADVANCES IN CHEMISTRY AND DENTISTRY

Presidents of the section: Prof. dr hab. Gabriel NOWAK, Dr hab. Jolanta PYTKO-POLOŃCZYK

1) Jacek SAPA, Alexandra RAK, Malgorzata ZYGMUNT, Pawel ZAJDEL,Vittorio CANALE
New aerylsulfonamide derivatives of aryloxyethyl-piperidines and pyrrolidines as potential selective a1-adrenolytic drugs in benignnprostatic hyperplasia (bPH)10

2) Marek BEDNARSKI, Monika OTTO, Leszek NOWINSKI, Katarzyna RAŹNY, Klaudia LUSTYK, Grazyna GROSZEK
Synthesos and pharmacological activity new series of i-(1h-indo-4-yloxy)-3-(2-(2-methoxyphenoxy)ethylamino)propan-2-olanalogs

3) Kinga SAŁAT, Adrian PODKOWA, Anna RAPACZ, Paula KOWALCZYK, Katarzyna KULIG, Barbara FILIPEK
Plasma membrane gaba transporters – a target for biologically active derivatives of 4-amino butanamides

4) Agnieszka ZAGÓRSKA, Anna CZOPEK, Maciej PAWŁOWSKI, Agata SIWEK, Grzegorz KAZEK, Anna PARTYKA, Magdalena JASTRZĘBSKA-WIĘSEK, Anna WESOŁOWSKA New tricyclic theophylline derivatives with aryl-,arylsulphonamide- and bicyclo-piperazinyalkylmoieties as potential ligands of monoamine receptors

5) Ewa TRYSTUŁA, Jolanta PYTKO-POLOŃCZYK
Dental problems of patients with affective bipolar disorder

6) Teresa SZUPIANY, Krzysztof RUTKOWSKI, Jolanta PYTKO-POLOŃCZYK
Eating disorder is not only psychiatric problem

7) Beata PIÓRECKA, Małgorzata PŁONKA, Paweł JAGIELSKI, Małgorzata SCHLEGEL-ZAWADZKA
Insulin resistance and skeletal muscle mass in a group of physically active women aged over 60 years from Kraków city and area

13.00-14.30 LUNCH

Thököly vendéglő, 1146 Budapest,Thököly út 80

14.00-15.00 PREVENTION 2 PART

Presidents of the section: Dr József GÁL, Dr Julianna FARKAS

1) Bettina Claudia BALLA
hungarian high-school students' attitudes towards the HPV vaccine – HPV-vel kapcsolatos attitűd magyar középiskolás lányok körében – Sinteno de hungaraj mezlernejaninoj direkte al la vakcino HPV
2) Anna ALLIQUANDER
Study the causes of late inclusion of women in sports of rowing – Tanulmány az evezős nőkről – a női versenyzés lassú térhódításának sportegészségügyi okai – Studo pri remantaj virinoj – sportmedicinaj kaŭzoj de malrapida disvastiĝo de la virina konkursremado
3) András TEREBESSY
Medical students health behaviour and self-reported mental health status their country origin
4) Orsolya SZÁSZ
Skin cancer screening in south-west hungary – Bőrrák szűrés Délnyugat Magyarországon
5) Gergő SZABÓ
Chapters about the cardiac implantable electronic devices: overview of their history and complications – Fejezetek a beultethető sziv-elektroterapias eszkozokről: torteneti attekintes es szovődmenyek

14.00-15.00 MULTIPLE SCLEROSIS 1 PART

Presidents of the section: dr Christoph KLAWE

1) Christoph KLAWE
Brief overview: new developments in the field of MS research
2) Zsuzsanna PÁL, B. GOMBOS, D. BERECZKI, M. SIMÓ
Our experiences with natalizumab treatment in ms patients
3) Roman MAZUR, Grzegorz OSIŃSKI, Andrzej OGONOWSKI, Gerhard MIKOLAICZIK, Magdalena TRZCIŃSKA, Maciej KLIMARCZYK, Tomasz PAŁKA, Wiktoria RAJCZYK, Robert PRINC, Jacek ŁUBKOWSKI, Marek M. CHOMNICKI
Analysis of brain stem respiratory center function by use of mathematical apparatus of chaos theory
4) Endre DUDICH,
Laszlo Batthyany-Strattmann Prince of Nametujvar
5) Istvan HEGYI
Civilizacionk furcsa fejlődese – Stranga evoluo de nia societo

15.05-17.00 HISTORY OF MEDICINE AND PHARMACY

Presidents of the section: Prof. dr. Karoly KAPRONCZAY, Dr hab. Judit FORRAI, Prof. UJ dr hab. Zbigniew BELA

1) Andras GECZI
The appearance of the moral tratment in forensic psychiatry and the 19th century broadmoor criminal lunatic asylum – a Moralis gondozas megjelenese a kriminalpszichiatriaban es a 19. szazadi Broadmoor Criminal Lunatic Asylum

2) Helga Judit FEIT
Patients' legal status in the 18th century along the physicians' legal obligations in hungary – Betegek jogi helyzete az orvosi kotelezettsegek menten a XVIII. szazadban Magyarorszagon – Jura situacio de pacientoj en Hungario en la XVIII-a jarcento rilate al leĝa obligacio de la kuracistoj

3) Anna VACZI
Health care regulations of the 18-19th century midwifery related to the modern patients' right legislation – Babakra vonatkozo 18-19.szazadi egeszsegugyi rendelkezesek, betegjogi szempontok alapjan – Sanitaraj disponoj koncernantaj la akuŝistinojn en la 18-19-aj jarcentoj, surbaze de malsanuljuraj vidpunktoj

4) Csaba Bence FARKAS
Asian holocaust: human experiments in manchuria between 1932 and 1945 – Azsiai HOLOKAUSZT: Emberkiserletek Mandzsuriaban 1932 es 1945 kozott

5) Zbigniew BELA
Is Hygieia the right patroness of pharmacy

6) Szabolcs BIRTA (România, Satu-Mare),
Kelkaj vortoj pri la transplantado de homaj organoj

7) Katarina FARAGÓ
Ĉu psika ekvilibro havas influon por tirogenaj malsanoj? Ĉu ekzistas rilatoj inter tirogenaj malsanoj kaj sterileco?

8) Anna Ibolya NAGY
Imput of energy and information through exercise

15.30-17.00 MULTIPLE SCLEROSIS 2 PART

Presidents of the section: dr Christoph KLAWE

1) Erika TATRAI
The application of optical coherence tomography (OCT) in MS

2) Szilvia GULYÁS, Veronika ZVÉR, Imre SZIRMAI, Anita KAMONDI, Magdolna SIMÓ
Alteration of visual attention in patients with multiple sclerosis

17.00-18.00 GUIDED POSTER TOUR WITH THE INTERNATIONAL COMMISSION

Presidents of the section: Prof. dr hab. Dariusz ADAMEK, Dr hab. Judit FORRAI, Dr hab. Jolanta PYTKO-POLOŃCZYK, Dr Christoph KLAWE, Dr hab. Bożena MUSZYŃSKA

19.00-22.00 SIGHTSEEING TRIP ON BOAT, DINNER, FŐNIX CHOIR PRESENTATION

18TH JULY, 2014 (FRIDAY)

9.00-11.00 DRUG ADDICTION- EMERGING PRECLINICAL FINDINGS

Presidents of the section: Prof. dr hab. Małgorzata FILIP, Dr Anna SADAKIERSKA-CHUDY

1) Małgorzata FILIP, Przemysław ADAMCZYK, Beata BYSTROWSKA, Irena SMAGA, Edmund PRZEGALIŃSKI, An impact of endocannabinoid/endovanilloid neurotransmission to cocaine addiction

2) Małgorzata FRANKOWSKA, Lucyna POMIERNY-CHAMIOŁO, Joanna MISZKIEL, Bartosz POMIERNY, Ewa NOWAK, Małgorzata FILIP, Different living conditions during cocaine abstinence change a density of mGluR5 in brain limbic regions in rats
3) Anna SADAKIERSKA-CHUDY, Agnieszka KOTARSKA, Małgorzata FRANKOWSKA, Joanna JASTRZĘBSKA, Joanna MISZKIEL, Karolina WYDRA, Agata SUDER, Ewa NOWAK, Małgorzata FILIP, The effect of cocaine self-administration on mitochondrial DNA in various regions of rat brain. Preliminary study.
4) Paweł RAKOWSKI (Gedeon Richter*)* Pharmacovigilance system – patients' safety in the focus

Participants of this section will take part in a tour to Gedeon Richter company (15.00-17.00).

(partoprenantoj de tiu ĉi sekcio partoprenos ekskurson al sidejo de firmao Gedeon Richter de la 15-a ĝis la 17-a horo)

11.15-12.45 SESSION OF YOUNG SCIENTISTS

Presidents of the section: Prof. dr hab. Małgorzata FILIP, Prof. dr hab. Dariusz ADAMEK

1) Karolina WYDRA, Agata SUDER, Kjell FUXE, Małgorzata FILIP
Behavioral effects of adenosine (A2A) receptor ligands on cocaine and food relapse in rats
2) Joanna JASTRZĘBSKA, Małgorzata FRANKOWSKA, Małgorzata FILIP
Modeling co-existence of depression and cocaine addiction in rats: the effects of escitalopram on cocaine reward, extinction and seeking behavior in bulbectomized rats
3) Anna KOWALSKA
Diabetes and dietary supplements
4) Jakub JOŃCZYK, Barbara MALAWSKA, Sławomir FILIPEK, Marek BAJDA
Application of computational methods for the design of BACE-1 inhibitors
5) Katarzyna SUŁKOWSKA-ZIAJA, Anna FIRLEJ, Bożena MUSZYŃSKA, Joanna GDULA-ARGASIŃSKA, Anna APOLA
Accumulation of antioxidant and anticancer activity compounds in the mycelial cultures of Piptoporus betulinus (bull.) p. Karst
6) Paulina KOCZURKIEWICZ, Irma PODOLAK, Katarzyna WÓJCIK, Elżbieta PĘKALA, Jarosław CZYŻ, Marta MICHALIK
Triterpene saponosides-new perspective in cancer therapy-*in vitro* studies
7) Martyna PIEKARA
Health care services in different countries- advantages and shortcomings-considering the situation of clinical nutrition in Poland
8) Katarzyna KAMIŃSKA, Zofia ROGÓŻ
Effect of co-treatment with risperidone and mirtazapine on MK-801-induced deficits in the social interaction tests in rats

11.15-12.45 YUMEIHO®

Presidents of the section: Prof. UJ dr hab. Włodzimierz OPOKA, dr Petro CIORTEA

1) Paweł RADŁO, Andrzej SMĘTKOWSKI , Maciej TĘSIOROWSKI, Barbara JASIEWICZ
Lumbar discectomy and microdiscectomy – a „gold standard" in spine surgery?

2) Katarina FARAGÓ
   Efiko de parte aplikata tradicia Yumeiho® terapio al la sterileco – 92 beboj naskiĝis dum 15 jaroj a részben alkalmazott tradicionális Yumeiho® terápia hatása a meddőségre/92 baba 15 év alatt
3) Wojciech KĄCKI, Barbara JASIEWICZ, Maciej TĘSIOROWSKI, Tomasz POTACZEK
   3D printing in orthopaedics
4) Péter CIORTEA
   Magnesium (the master mineral) new experiences

13.00-14.30 LUNCH

15.00-17.00 OPTIONAL SIGHTSEEING PROGRAM: A PHARMACEUTIC FACTORY, UNIVERSITY HOSPITAL, SEMMELWEIS UNIVERSITY ETC.

18.00-19.30 TRIP TO THE FORTRESS WITH ECUMENIC SERVICE IN THE MATTHIAS CHURCH, "RÓZSAFŰZÉR KIRÁLYNŐJE" CHURCH PERFORMER: "FŐNIX" CHOIR

20.00 DINNER RESTAURANT THŐKŐLY

19TH JULY, 2014 (SATURDAY)

10.00-11.30 VISIT TO THE HUNGARIAN PARLIAMENT

11.30 SIGHSEEING TRIP BY BUS ACCOMPANIED BY A TOURIST GUIDE

13.00-14.30 LUNCH IN A RESTAURANT AT THE BANKS OF THE DANUBE RIVER, CLOSE TO THE PARLIAMENT

15.00-17.30 OPTIONAL PROGRAMM

15.00-17.30 Yumeiho®-practitioner service for the congress participants

18.00-19.30 Congress Dinner

21.00-24.00 CONGRESS BALL – SOUTH-AMERICAN DANCES

20TH JULY, 2014 (SUNDAY)

10.00-10.25 LECTURE

Lecture by K. HAVASI

Katalin HAVASI, Tamás GAIZER, Stefánia BORDA, Márta KATONAK
Fit-test: interdisciplinary r&d project for a healthier generation

10.25-12.00 CLOSING OF CONGRESS

Closing ceremony of the 19th IMEK, awarding of certifications to new Yumeiho-practitioners

Introduction of the organizing committee for the 20th IMEK

Introduction of the new presidency of UMEA

- current affairs

- information

12.30-14.00 LUNCH

Lunch with lunchbox

Set off back home – organizers will help with transport to the airport, central railway station etc.

RECTOR OF THE SEMMELWEIS UNIVERSITY IN BUDAPEST

PROF. DR. ÁGOSTON SZÉL

Rector's Welcome

Where the past and the future meet… At Semmelweis University – Hungary's oldest medical school – more than 240 years of tradition, experience and expertise serve as the basis for innovation and the application of modern technologies. Built on the classic trinity of education, health care and research, the University possesses a distinguished place in the Hungarian higher educational system. Moreover, Semmelweis University is Hungary's largest health care institution, a well-recognised, outstanding centre of research, and a stronghold of physical education and sport sciences as well.

The person filling the post of rector in the coming period has a difficult task ahead of him, considering the unfavourable financial situation faced by higher education and health care institutions within Europe in general and Hungary in specific. Nevertheless, our University's exemplary traditions and excellent international reputation puts us in a position which gives rise to hope. We possess enormous intellectual capital, which allows us to always prevail over the challenges facing us.

The University's six faculties confer over 1700 diplomas every year, which are not only recognised in many countries around the world, but the international acclaim of which is unquestionable. Our University's foreign language programmes are especially worth noting, which have provided the University with enormous recognition and a solid reputation on both the national and international scenes. Today, almost a quarter of the University's 12,000 students comes from abroad.

Semmelweis University puts a special emphasis on training the next generation of doctors, and on identifying and nurturing talents. The launch of the Kerpel-Fronius Talent Support Programme has been of paramount importance, which provides the most talented high school students with the support and opportunities required to make their university careers as successful as possible.

With its 27 clinics and over 8000 employees, SemmelweisUniversity is one of Hungary's largest health care providers covering six percent of the entire population's health care needs, which translates to around 2.3 million cases per year. Clinical work is carried out in close cooperation with education and research, to the benefit of all three areas.

"The Year of Prevention" initiative is a good example of this cooperation, as it involves a combination of educational, health care, and research activities. One of the important goals of the University's new course on prevention is to mobilise the student body in this crucial public health campaign, since prevention is the medicine of the 21st century.

The development of research activities has received increasing attention over the past decade. Over 1300 employees, many of whom are young talents, participate in the research and development work of the University's 80 departments and research groups. Publication

activities have improved considerably, with the cumulative impact factor doubling to around 2200 at present.

SemmelweisUniversity was awarded the prestigious Research University title in 2010, which is a remarkable achievement in itself. Additionally, the TÁMOP grant project has resulted in, among others, the establishment of research networks and an increasing number of successful Ph.D. students.

In the past decade, our primary goal was to become a leading institution of education, health care, and research within Hungary and the Central European region as a whole. I consider it important to continue our efforts to stabilise and hold onto these goals.

Our University's traditions, as well as our domestic and international reputation, oblige the leaders of the University to not only maintain this role, but to consolidate and continuously build upon it through continuous development and the mobilisation of available resources. As the new rector of Semmelweis University, I profess that the preservation of our University's stability and integrity has to be one of our top priorities.

Prof. Dr. Ágoston SZÉL

Saluto de la Rektoro

Kie la pasinto kaj la estonto renkontiĝas… Ĉe la Semmelweis Universitato –la plej malnova medicina lernejo de Hungario. Pli ol 240 jaroj de tradicio, sperto kaj praktiko servas kiel bazo por novigo kaj apliko de modernaj teknologioj. Konstruita sur la klasika triopo de edukado, sanprizorgo kaj esploro, la Universitato havas altan lokon en la tria-etaĝa sistemo de edukado en Hungario. Ĝi estas ankaŭ la plej granda sanprizorga institucio en Hungario, kaj la fortikaĵo de korpa edukado kaj scienco de la sporto.

La rektoro en la sekva periodo havos malfacilan taskon pro la malfavora financa situacio en Eŭropo ĝenerale kaj en Hungario speciale. Tamen la ekzempla tradicio kaj la bona internacia reputacio de nia Universitato rajtigas nin je espero. Nia grandega mensa kapitalo ebligas nin ĉiam venki la renkontatajn defiojn.

La ses fakultatoj de la Universitato eldonas ĉiujare pli ol 1,700 diplomojn, kiuj estas rekonataj en multaj landoj. Speciale menciindas la fremdlingvaj programoj de la universitato. Nuntempe preskaŭ unu kvarono de la 12 mil studentoj de la Universitato venas el eksterlando.

La Semmmelweis Universitato zorgas pri la talentoj. (La Kerpel Fronius Talent-apoga programo).

Kun ĝiaj 27 klinikoj kaj pli ol 8 mil dungitoj prizorgas la bezonojn de 6 % de la tuta loĝantaro de Hungario. Tio signifas pojare ĉirkaŭ 2,3 milionojn de kazoj. Klinika laboro estas farata en intima kunlaboro kun instruado kaj esploro, je la profito de ĉiuj tri .

La “Jaro de Prevento” estas bela ekzemplo de tiu kunagado.

Pli ol 1,300 dungitoj partoprenas la esplora kajlaboron faratan en 80 departamentoj kaj laborgrupoj. Publikado disvolvíĝis konsiderinde, la kumulativa impakt-faktoro duobliĝis al la nuna 2,200.

En 2010 la Semmelweis Universitato ricevis la prestiĝan titolon „Esplora Univesitato.”

Dum la pasinta dekado nia primara celo estis fariĝi la centra institucio pri edukado, sanprizorgo kaj esplorado en Hungario kaj en la tuta regiono de Centra Eŭropo. Nia tradicio postulas ke ni ne nur stabiligu tiun pozicion, sed senĉese disvolvu ĝin, eluzante ĉiujn haveblajn resursojn.

Kiel la nova rektoro de la Semmelweis Universitato mi deklaras ke la stabileco kaj integreco devas esti unu el niaj plej altaj, „top” prioritatoj.

Prof. Dr. Ágoston SZÉL
Esperantigis E. DUDICH

VICE-RECTOR OF THE JAGIELLONIAN UNIVERSITY FOR THE MEDICAL COLLEGE

PROF. DR HAB. PIOTR LAIDLER

Mr Rector,
Mr Chairmen,
Dear Professors,
Distinguished Guests
Ladies and Gentlemen,

On behalf of the Authorities of the Jagiellonian University (JU) and Jagiellonian University Medical College (JU MC) as well as our whole academic community, I have an honour and a pleasure to welcome all participants to of the 19th INTERNATIONAL MEDICAL ESPERANTO CONGRESS & 1st CENTRAL EUROPEAN BIOMEDICAL CONGRESS in Hungary co-organized by the Jagiellonian University Medical College in Kraków. We feel privileged and we are honoured that our university takes part in this prestigious international conference as one of its leaders.

This symposium has been organized in special time when the Jagiellonian University – the oldest university in Poland and one of the oldest universities in Central-Eastern Europe – celebrates 650-years of its foundation in 1364 by the King Casimir the Great. At present the Jagiellonian University which has a status of one of the oldest European educational institution and one of the greatest and best Polish universities comprises of 15 faculties including 3 medical faculties, that were re-joined with the university in 1993, and together form the Jagiellonian University Medical College. Nearly 4 thousand scientific and teaching staff of the Jagiellonian University educates each year about 50 thousand students.

The Jagiellonian University Medical College itself is a successor to a 650-year tradition of educating highly qualified medical personnel for Poland's entire health service because among the three first faculties of the Jagiellonian University was the Faculty of Medicine, the birth of which gave rise to Polish medicine in Kraków, where it has advanced thenceforth for centuries.

The Jagiellonian University Medical College consists of three Faculties: Medicine, Pharmacy, and Health Sciences. JU MC conducts undergraduate, graduate and doctoral programmes of study, a broad spectrum of scientific research, exchange programme and international activities, working with leading universities from over the word. The Jagiellonian University Medical College employs 1 200 teaching staff including 140 professors. Currently there are about 6500 students who study medicine, dentistry, dietetics, pharmacy, medical analytics, enology, nursing, obstetrics (midwifes), paramedics, physiotherapy, electroradiology and public health among them nearly 700 international students from all over the world studying either medicine or dentistry in the School of Medicine in English.

The School of Medicine in English at the Faculty of Medicine opened its doors to first students in 1994. Its rapid development resulted in it currently educating students coming

from five different continents and twenty countries. The School offers two medical programmes and one dental programme of study conducted in English.

Main subject of the congress, titled "Chronic diseases as challenge for contemporary societies in the 21st century", connects physicians, dentists, pharmacists and other representatives of medical professions who will discuss about this broad and difficult not only medical but also social problem.

I would like to express my deep appreciation to organizers of the Congress. In my opinion this kind of meeting creates an excellent forum for exchange of information, experiences and ideas on clinical important topics between scientists from many countries. I am confident that this symposium will provide a wide platform for discussions on the choice of the most effective preventive, diagnostic and therapeutic methods, and will allow exchange of knowledge and experience in the sphere of chronic diseases. I wish you a fruitful and stimulating meeting and unforgettable time in Hungary.

Sincerely,
Prof. dr hab. Piotr LAIDLER
Kraków, Poland

HONORA PREZIDANTO DE UMEA

DR. IMRE FERENCZY

Kedves kongresszusi résztvevők!

Nagy tisztelettel köszöntöm az Orvosegészségügyi Eszperantó Világszövetség nevében az itt megjelent résztvevőket hazánkon kívül a közeli és távoli országokból. Már eltelt 37-év, amikor Hódmezővásárhelyen rendeztük meg a 2. nemzetközi konferenciánkat szép számú résztvevővel. Az az elképzelés, amelyet még 1976-ban Opoka doktorral kidolgoztunk, helyes és szükséges volt. Kétévenként rendeztünk konferenciát, kongresszust más más országban. Ma már a 19-ik kongresszust tartjuk hazánk fővárosában.

Ez úton is megköszönöm mindazoknak a támogatását, akik az eszperantó szakmai tevékenységünket támogatták, munkánkat elismerték. A kongresszus résztvevőinek hasznos, sikeres megbeszéléseket kívánok. Remélem, hogy egy széleskörű nemzetközi tudományos együttműködés kezdődhet majd Krakkó és Budapest orvosegyetemei között.

Dr. FERENCZY Imre
az UME tiszteletbeli elnöke
Karaj gekongresanoj!

En la nomo de nia Asocio kun granda estimo mi salutas la partoprenantojn el la proksimaj kaj malproksimaj landoj kune kun la hungaraj gekolegoj. Jam pasis 37 jaroj, kiam ni aranĝis en urbo Hódmezővásárhely nian 2-an internacian Konferencon kun multnombraj ĉeestantoj. Tiu plano, kiun ni prilaboris ankoraŭ en jaro 1976 kune kun d-ro Vladimiro Opoka, estis ĝusta kaj necesa. En ĉiu dua jaro ni aranĝis konferencon, kongreson en diversaj landoj. Jam nun ni okazigas la 19-an Kongreson en la ĉefurbo de nia lando.

Ankaŭ ĉi-foje mi esprimas miajn dankojn al tiuj, kiuj subtenis nian Esperantan fakan agadon, rekonis nian laboron. Mi deziras utilajn, sukcesajn traktadojn al la partoprenantoj de la Kongreso. Mi esperas, ke baldaŭ povos okazi vasta internacia scienca kunlaboro inter la krakovia kaj budapeŝta universitatoj.

D-ro Imre FERENCZY
Honora prezidanto de UMEA

DIRECTOR OF THE INSTITUTE OF PHARMACOLOGY POLISH ACADEMY OF SCIENCES

PROF. DR HAB. KRZYSZTOF WĘDZONY

Dear Colleagues,

As a member of the Honorary Committee, I would like to warmly welcome you all to the 19th International Medical Esperanto Congress and the 1st Central European Biomedical Congress from 16 to 20 July in Budapest, Hungary.

This congress themed "Chronic diseases as challenge for contemporary societies in the 21st century" will take a look at the future of science and practice in pharmacy and medical biology. It will feature internationally renowned speakers who will share and discuss significant new developments and scientific advancements on the most important health problems such as depression, multiple sclerosis, drug addiction, chronic diseases symptoms in oral cavity and orthopedic diseases of childhood. The congress will focus also on health care services and history of medicine and pharmacy in different countries. We look forward to welcoming clinicians, pharmacists, researchers, academics and other allied health professionals with interest in human health from Europe and beyond.

The Institute of Pharmacology Polish Academy of Sciences (Kraków, Poland) is proud to support this combined meeting for the first time in the history of both societies.

The Institute of Pharmacology, Polish Academy of Sciences (established in 1954), is a center of pharmacological and neuroscience research that facilitates interdisciplinary collaboration among basic neuroscientists. It houses 13 different departments and 8 laboratories. Today, scientists at the Institute of Pharmacology focus on cognitive neuroscience, neurodegenerative disease, addiction, schizophrenia, pain, mood disorders research, to name a few areas. The Institute of Pharmacology also emphasizes education (Ph. D. program) and training for researchers from Poland and abroad.

In 1954-2013, researchers employed in the Institute published 6780 research papers, including 3315 original papers in peer-reviewed international journals and received 21 patents.

By 31 December 2013, the Institute had 209 full-time employees in all, including 24 Professors, 16 Associate Professors, 56 Ph.D. adjuncts or fellows, 63 engineers and technicians, and 50 other employees. Doctoral Studies are attended by 41 participants.

The Institute was granted permission to award a degree of Ph.D. in medicinal biology or medicine as well as a degree of D.Sc. in medical sciences.

Since 1984, every year in March the Institute organizes Winter Schools dedicated to the latest achievements and directions in the development of neuropsychopharmacology all over the world. Participants of these schools are scientists workers of the Institute and researchers from centers cooperating with the Institute and from similar institutions.

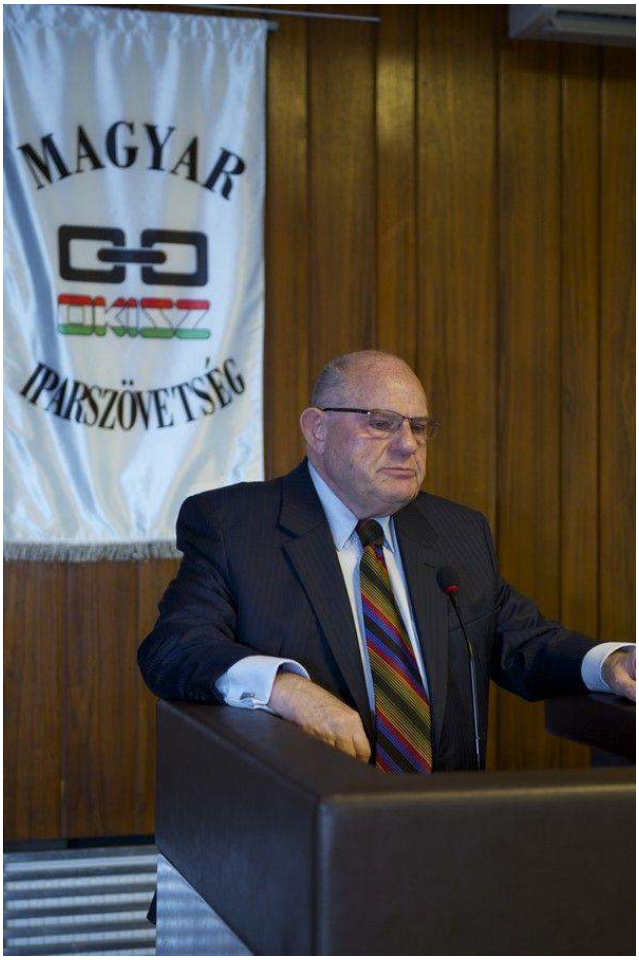
The Institute has been implementing long-term collaborative scientific projects with a number of foreign research centers. This multilateral cooperation has already brought about a number of important joint publications and an exchange of scientists.

The Institute has also been cooperating with Poland's and international pharmaceutical industry for many years. This cooperation consists in research and systematic testing of new products and generic drugs, as well as in giving lectures and training in pharmacology.

In 2012, the Institute has received the status of the Leading National Research Centre (KNOW) in the field of medicine/health sciences – prestigious award granted by the Minister of Science and Higher Education in Poland.

We look forward to you at the 19th International Medical Esperanto Congress and the 1st Central European Biomedical Congress and to experience Budapest!

Sincerely,
Prof. dr hab. Krzysztof WĘDZONY
Director, Institute of Pharmacology
Polish Academy of Sciences
Krakow, Poland



Direktoro de OKISZ Dr György VADÁSZ

A Magyar Iparszövetség (OKISZ) országos munkaadói szervezet, amely az egyesülési jogról szóló 1989. évi II. törvény rendelkezései, valamint Alapszabálya szerint működik, tagszervezetei önkéntes elhatározásából alakult, és immár több mint 90. éves múltra tekint vissza.

Magyarországon a kkv szektor 2013. évben is stagnált, növekedés továbbra is csak a multik hazai leányvállalataitól származott, melyek viszont többnyire nem integrálódtak szervesen a hazai gazdaságba. Az EU-s felmérések szerint, a magyar kisvállalkozások szinte mindenben rosszabbul teljesítenek az Uniós átlagnál. A helyzetet rontotta a közbeszerzési piac bonyolultsága valamint a korrupció. A kkv szektor gyenge versenyhelyzetét jellemzi, hogy 78%-uk nem exportál. 2013-ban a megszűnt kkv-k száma a 35.237 rekordot döntött. Az új cégek alakulásánál szintén visszaesés érzékelhető, míg 2011-ben 49.706 új kisvállalkozás jött létre, 2013-ban mindösszesen 34.167.

Az év második felében bíztató jelként érezhetjük a gazdasági recesszió megállását, a gazdasági növekedést bizonyító kedvezőnek ítélhető makrogazdasági adatokat (GDP növekedés, infláció, költségvetés) és kedvezőnek tartjuk a kkv-k pénzügyi helyzetének segítését előirányzó MNB növekedési hitelprogramot.

A Magyar Iparszövetség székháza megépülése óta azzal az elsődleges céllal működik, hogy a magyarországi mikro-; kis- és középvállalkozások számára folyamatos felzárkóztatási lehetőségeket biztosítson, és az Inkubátorház-projektje révén, e cél még hangsúlyozottabbá vált.

A Magyar Iparszövetség törekvése: hasznos, naprakész információkat biztosító, szolgáltatások széles körét közvetítő, a hazai kkv-k működését, fejlesztését, piaci versenyképességük előmozdítását segítő érdekképviselet működtetése.

Ezen szempontokat alapul véve a Magyar Iparszövetség Inkubátorházának stratégiai célja, hogy az induló vállalkozások számára biztosítson infrastrukturális lehetőségeket, melyhez kapcsolódóan a központ által nyújtott szolgáltatások megkönnyítik a vállalkozások kezdeti időszakában felmerülő nehézségek megoldását.

<u>Az inkubátorház működtetésének céljai:</u>

- Védje, óvja, ápolja az induló kisvállalkozásokat úgy, hogy mesterségesen kedvezőbb környezetet teremt számukra a piaci viszonyoknál.
- Infrastruktúrát, helyet, szolgáltatásokat, pályázati tanácsadás révén segítséget biztosítson a vállalkozásoknak.
- Segítse túlélni a kritikus kezdeti időszakot, áthidalni a kis induló tőkével, a kockázatfelmérés hiányával, elégtelen piaci ismeretekkel, hiányos vállalkozásvezetési ismeretekkel kapcsolatos problémákat.
- Célja tehát a piaci viszonyoknál kedvezőbb bérleti konstrukciókkal és szolgáltatásokkal a vállalkozásokat a működésük kezdeti szakaszában támogatni.
- A kezdő vállalkozások jól ismert problémája az indulás nehézségeinek kezelése, a megfelelő működési környezet felkutatása, a szükséges szolgáltatások összeválogatása, melyek mellett kevés idő jut a valódi vállalati tevékenységre. Az információ hiányának következtében az események sokszor elkedvetlenítik a vállalkozókat.

- Fejlesztésünk megvalósításával az induló, vagyis maximum 3 éves működési múlttal rendelkező vállalkozások legfeljebb 5 éves időszakra kiterjedő inkubációját szolgálja.

A folyamatosan bővülő, felzárkóztatást elősegítő lehetőségek nyomon követése, valamint a célcsoport tájékoztatása, továbbra is fontos feladataink egyike.

Az Inkubátorház által biztosított szolgáltatások igénybevételének gyakorisága is azt a tényt támasztja alá, hogy a vállalkozások minden eddiginél jobban igénylik a gazdasági környezet, szinte mindennapos változásával kapcsolatos informálódást.

Elérhetőségeink: www.okiszinkubatorhaz.hu
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INAUGURATION LECTURE

PREVENTION AND CONTROL OF NON-COMMUNICABLE DISEASES TODAY

Károly CSEH

Institute of Public Health, Semmelweis University 1089. Nagyvárad tér 4, Budapest, Hungary

Today, more than 60% of global death are due to non-communicable diseases (NCD). In 2012, about 56 million of people died worldwide and NCDs were responsible for 68% of all deaths. The major NCDs are cardiovascular diseases, cancer, type 2 diabetes mellitus and chronic lung diseases. Cardiovascular diseases (leading cause of death in 2012) killed 17.5 million people, 7.4 million of death was caused by ischaemic heart disease and 6.7 million of them by stroke. An escalating global epidemic of obesity (globesity) is present at many parts of the world. 65% of the world's population live in countries, where obesity kills more people, than underweight. About 200 million men and 300 million women are obese, worldwide. About 40 million of children under age of 5 years were overweight in 2012. Obesity poses an enormous risk on diet-dependent non-communicable disease conditions, such as type 2 diabetes mellitus, cardiovascular, musculosceletal disorders, hypertension, stroke and cancer (endometrial, breast, colon). The current basic concept of the primary population strategy of the prevention of NCDs is based on lifelong, and high priority approaches. Several recommendations of the current NCD's prevention guidelines contain common preventive elements (avoidance/cessation of smoking/tobacco use, keep the body weight constant /BMI< 25 kg/m^2/, limit energy intake from total fats and sugars, increase consumption of fruit and vegetables, legumes, whole grains and nuts, achieve adequate amount of regular physical activity). In 2012, the General Assembly of the UN declared of high-level meetings on the prevention and control of NCDs, to reduce major NCDs and risk factors between years of 2012-2025. WHO global action plan was endorsed to prevent and control the four main NCD targets: cardiovascular diseases, cancer, chronic respiratory diseases, type 2 diabetes mellitus and four common, shared behavioral risk factors, tobacco use, unhealthy diet, physical inactivity, harmful use of alcohol. An NCD alliance network of over 2,000 civil NGOs in more than 170 countries was founded. WHO also introduced a Global Strategy on Diet, Physical Activity and Health. Global Monitoring Framework on NCDs was adopted, including the

following nine global targets: 25 % relative reduction of the premature mortality from NCDs, 10% reduction of harmful alcohol consumption, 10% reduction of insufficient physical activity, 30% reduction of salt/sodium intake, 30% reduction of tobacco use, 25% reduction of high blood pressure, to stop the rise of obesity and type 2 diabetes mellitus, 50% of eligible patients should receive medical counselling and adequate drug therapy to prevent NCDs /glycemic control, cardiovascular disease prevention/, to make available the affordable basic technologies, essential medicines, for at least 80% of patients for the treatment of major NCDs in public and private facilities. Additionally, WHO introduced 25 indicators of the Global Monitoring Framework (morbidity and mortality, risk factors, national system response). Public awareness campaigns at societal level are also planned to sensitize the stakeholders, such as policy-makers, industrial sectors, medical professionals and the public.

A NEM-FERTŐZŐ BETEGSÉGEK MEGELŐZÉSI STRATÉGIÁJA NAPJAINKBAN

Károly CSEH

Semmelweis Egyetem, Népegészségtani Intézet 1089. Nagyvárad tér 4, Budapest, Magyarország

Jelenleg a halálesetek több mint 60%-a a nem-fertőző betegségek (NFB) következménye világszerte. 2012-ben mintegy 56 millió ember halt meg a világon, 68%- uk NFB következtében. A legtöbb halálesetet okozó NFBk a kardiovaszkuláris, a daganatos betegségek, a 2-es típusú cukorbetegség és a krónikus tüdőbetegségek. A kardiovaszkulári betegségek (2012-ben a vezető haláloki tényező a világon) 17,5 millió ember halálát okozták, ebből 7.4 millió haláleset ischemiás szívbetegég, 6,7 milló pedig stroke miatt következett be. A világ jelentős részén rohamosan terjed az elhízás (globezitás). A Föld lakosságának 65%-a él olyan országokban, ahol az elhízás következményeként többen halnak meg, mint az alultápláltság miatt. Világszerte mintegy 200 millió férfi és 300 millió nő elhízott. 2012-ban 40 millió 5 éven aluli gyermek volt túlsúlyos. A túlsúly igen jelentős kockázati tényezője az elhízás-függő NFBk kialakulásának (2-es típusú cukorbetegség, a kardiovaszkuláris, a váz- és izomrendszeri megbetegedések, a hipertónia, a stroke és egyes daganatok /endometrium, emlő, colon daganatok/). Az NFBk megelőzésének jelenlegi, elsődleges, a teljes népességre irányuló stratégiai alapelve a teljes élethosszon át folyamatosan végzett, prioritásokat figyelembe vevő prevetív tevékenység. A mai, az egyes NFBk megelőzésével kapcsolatos guidelinok útmutatásai több közös preventív javaslatot tartalmaznak (dohányzás kerülése/elhagyása, a testsúly állandó szinten történő tartása /BMI< 25 kg/m^2/, az állati zsírok, transzzsírok, cukrok fogyasztásának korlátozása, megfelelő mennyiségű friss gyümölcs, zöldség, élelmi rostok fogyasztása, megfelelő időtartamú és intenzitású fizikai aktivitás végzése). 2012-ben az Egyesül Nemzetek Közgyűlése politikai nyilatkozatban deklarálta, hogy magas szintű összejöveteleken foglalkoznak az NFBk megelőzésével, abból a célból, hogy a 2012-2025 közötti időszakban csökkentsék a fő NFBk és rizikótényezőik előfordulási gyakoriságát. A WHO globális akciótervet dolgozott ki a négy legfontosabb NFB megelőzésére. Ezek a kardiovaszkuláris, a daganatos, a krónikus légúti betegségek és a 2-es típusú cukorbetegség, valamint négy alapvető, közös rizikótényező csökkentésére, amelyek a dohányzás, az egészségtelen táplálkozás, a mozgásszegény életmód és az egészségre káros alkoholfogyasztás. Létrejött több mint 2000 civil szervezet 170 országban történő részvételével az NFBk megelőzésére egy nemzetközi hálózat. A WHO emellett elindított egy Globális Étrend, Fizikai Aktivitás és Egészség Programot is. A Global Monitoring Framework NFB megelőző program kilenc fő célkitűzést tartalmaz: az idő előtti NFB halálozás 25 % -os relatív csökkentése, az egészségre káros alkohol fogyasztás 10% -os csökkentése, az elégtelen fizikai aktivitás 10%-os mérséklése, a só/nátrium fogyasztás 30%-os csökkentése, a dohányzás 30%-os mérséklése, a magas vérnyomás 25%-os csökkentése, az elhízás és a 2-es típusú cukorbetegség növekedésének megállítása, a betegpopuláció legalább 50%-a részesüljön megfelelő, személyre szóló orvosi tanácsadásban és az NFBk megelőzését szolgáló adekvát gyógyszeres kezelésben /glikémiás

kontroll, kardiovaszkuláris prevenció/, a betegek legalább 80%-a számára lehetővé kell tenni a NFBk diagnosztikájának orvosi módszereit és kezelési eljárásait mind a köz, mind a magán egészségügyi intézményekben. Emellett a WHO 25 indikátort is kialakított a Global Monitoring Framework NFB megelőző program ellenőrzésére (morbiditási és mortalitási mutatók, rizikótényezők, nemzeti rendszerek). Nyilvánosság bevonását célzó társadalmi kampányok tervezését is célul tűzték ki a döntéshozók, az ipari-kereskedelmi szektor, az egészségügyi ellátó rendszer és az egyes társadalomi csoportok bevonására.

Nuntempa preventa strategio de la ne-infektaj malsanoj
Citaĵoj:

„Nuntempe, tutmonde pli ol 60 %-j de la mortokazoj estas sekvo de la ne-infektaj malsanoj (NIM). La NIM-oj kaŭzantaj la plej multajn mortokazojn estas la kardiovaskulaj, tumoraj malsanoj, la sukermalsano de la 2-a tipo kaj la kronikaj pulmomalsanoj. Sur signifa parto de la mondo rapidege disvastiĝas la obezeco (globezeco). La nuna, primara, al la plena loĝantaro direktiĝanta, strategia principo de prevento de NIM-oj estas la preventa agado farata kontinue dum la plena vivodaŭro kaj konsideranta la prioritaton. La nunaj gvidlinioj enhavas plurajn, komunajn, preventajn proponojn: eviti/forlasi la fumadon, teni la korpopezon sur konstanta nivelo (BMI < 25 kg/m2), limigo de konsumado de bestaj grasoj, transgrasoj, sukeroj, konsumado de freŝaj fruktoj, legomoj, nutraĵfibroj en konvena kvanto, farado de fizika aktiveco en konvenaj tempodaŭro kaj intenseco. Oni devas kunlabori kun internaciaj, ŝtataj kaj civilaj organizaĵoj. Laŭ la propono de Monda Organizaĵo de Sano (MOS) estas bezonata ankaŭ la kliento-orientita, kuracista konsultiĝo, kaj la kontrolo de la rezultoj.”

I. DEPRESSION AS A SYMPTOM OF DIVERSE COMMON DISEASES

Presidents of the section: Prof. dr hab. Andrzej PILC

and Prof. dr hab. Gabriel NOWAK

ACTIVATION OF MOTOR SIGNALING PATHWAY IN THE ANTIDEPRESSANT-LIKE ACTIVITY OF MGLU5 ANTAGONIST, MTEP AND MGLU7 AGONIST, AMN082 IN THE FST IN RATS

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Clinical studies have demonstrated rapid and long-lasting antidepressant effects of the NMDA receptor antagonist, ketamine, in depressive patients. It has been proposed that these effects are related to changes in synaptogenesis in the mechanism involving mammalian target of rapamycin (mTOR) activation. Similar mechanisms have been proposed for a group II metabotropic glutamate (mGlu) receptor antagonist, LY341495. We aimed to investigate whether other mGlu receptor ligands, producing antidepressant-like effects, namely mGlu5 antagonist, MTEP, and mGlu7 agonist, AMN082, induce the activation of mTOR signaling in the prefrontal cortex (PFC) in rats. AMN082 administered 60 min before the test increased the level of pmTOR and pp70S6K, and the mTORC1 antagonist, rapamycin, reversed AMN082-induced changes in the forced swim test (FST) in rats. Furthermore, AMN082 given 23 h before decapitation of rats, increased the levels of synapsin I and GluR1, however it did not produce any effect in the FST at the same time point. On the other hand, MTEP induced a rapid, but not sustained antidepressant-like effect, which was not related to the activation of mTOR cascade. Finally, the antidepressant-like effects of MTEP or AMN082 were not antagonized by NBQX. In summary, the antidepressant-like activity of MTEP did not depend on the activation of mTOR signaling. However, we observed a unique feature of the mechanism of AMN082. The drug stimulated mTOR signaling pathway and synaptic protein levels (like ketamine), while it did not induce a sustained antidepressant effect and its action was not directly dependent on AMPA receptor activation (like classic antidepressants (ADs).

DEPRESSION, THYROID DISEASES AND IODINE DEFICIENCY – HOW TO SCREEN?

Zsófia TÖRÖK, András TEREBESSY

Semmelweis University, Department of Public Health

Introduction

It is well known that thyroid hormones have an effect on the central nervous system, and there is a relation between hypothyroidism and affective disorders. Correlation between environmental iodine supply and thyroid dysfunction is also observed. Women suffer more frequently from thyroid diseases (especially hypothyroidism) and depression than men. Our aim was to find possible correlation between iodine deficiency affecting 80% of the population of Hungary, consequently occurring overt or latent thyroid disorders, and affective diseases which are more common in Hungary than in Europe and examination of the screening possibilities.

Methods: International databases and the results of international studies with large samples were compared with data from Hungary. The analysis of the data was performed by prevalence-analysis and correlation method.

Results

Based on the iodine content of drinking-water Hungary is among European countries with moderate iodine deficiency. Prevalence of thyroid disorders are slightly more common and affective disorders are significantly more common in Hungary than the European average: the lifetime prevalence of mood disorders in Hungary is 24.2 % (Szádóczky, 1998) the European average is 14.0% . (ESEMeD, 2004)

Conclusion

Results of our study only suggests but does not support that iodine deficiency in Hungary is a factor contributing to the development of mood disorders. It is necessity to screen these deviations beyond the supposedly insufficient iodine supply. Reviewing the scientific literature we found no generally accepted method for screening for hypothyroidism. There are several different recommendations and there is no consensus on the method of screening this frequent disease which substantially impair the quality of life of patients. A two- step screening method which intend improve quality of life (Wald et al) seems to be the most appropriate, this method is planned to be applied in Hungary adding measurement of the urinary iodine concentrations and shortened Beck Depression Inventory.

MAGNESIUM IN DEPRESSION AND ANXIETY – LATEST NEWS

Ewa POLESZAK, Anna SEREFKO

Chair and Department of Applied Pharmacy, Medical University of Lublin, Lublin, Poland

Magnesium is one of the most essential trace elements in the human body. Apart from being involved in the proper functioning of cardiovascular, alimentary, endocrine and osteoarticular systems, it is widely connected with brain biochemistry and the fluidity of neuronal membrane. There is strong evidence that the fluctuations in magnesium levels play a significant role in mood disturbances, since the available data link the magnesium deficiency with personality changes, including apathy, depression, agitation, confusion, anxiety and delirium. Several authors even suggest that hypomagnesaemia could be treated as a physiological indicator of anxiety and depression. Experimentally induced magnesium deficiency resulted in depression-like behaviour in rodents, which was effectively managed by antidepressants. According to several reports, the tissue magnesium levels seem to be more appropriate indicator of depressive disorder than the plasma/serum concentration.

Magnesium ions modulate glutamatergic (via the NMDA receptors) and GABAergic neurotransmissions – i.e., the pathways highly responsible for the development of depression and anxiety. Moreover, this divalent cation has been shown to control the activity of the hypothalamic-pituitary adrenorortical axis (HPA), which is considered to be the main stress response system, associated with both anxiety and depression. Besides, in experiments conducted on mice, the antidepressant and anxiolytic action of magnesium, as well as its ability to enhance the action of antidepressants and anxiolytics has been revealed. Mood-improving efficacy of magnesium supplementation has been observed also in clinical practice, for example in patients with major depression and postpartum depression.

Thus, the significance of magnesium ions in the development of affective disorders is not disputable.

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THE ANTIPSYCHOTIC-LIKE ACTION OF MGLU4 ACTIVATORS IS SEROTONIN-DEPENDENT

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Clinical and basic studies suggest that a dysregulation of the glutamatergic system plays an important role in some of the pathologic changes associated with schizophrenia. Modulation of the central glutamatergic system via metabotropic glutamate (mGlu) receptors might lead to novel pharmacological treatments. The objective of this work was to explore, compare and contrast the pharmacological effects of central activation of the mGlu4 receptor through orthosteric and allosteric ligands. The involvement of serotonergic system in the action of these ligands was also studied.

Two groups of compounds that selectively activate the mGlu4 receptor, the orthosteric agonists LSP1-2111 and LSP4-2022, as well as the positive allosteric modulators (PAM) Lu AF21934 and Lu AF32615, were characterized in terms of their *in vivo* properties, basically in the models of several aspects of psychosis, including positive, negative and cognitive disturbances. The role of 5-HT1A receptors in their action was also investigated with the use of selective agonist and antagonist of that receptor.

Compounds activating mGlu4 receptors through an orthosteric or allosteric mechanism were efficacious in a number of preclinical models reflecting positive, negative and cognitive symptoms of schizophrenia in rodents. These include dose-dependent inhibition of both MK-801 and amphetamine-induced hyperactivity; antagonism of 2,5-dimethoxy-4-iodoamphetamine (DOI)-induced head twitches in mice; MK-801-induced disruption in the social interaction test and efficacy in the delayed spatial alternation test. The action of the ligands was 5-HT1A dependent.

The efficacy shown by compounds activating the mGlu4 receptor in mechanistic and behavioral models provides evidence for an important role played by this receptor in the pathophysiology of schizophrenia. Regulation of synaptic glutamate concentrations using compounds which activate the functional response of the mGlu4 receptor, and the concomitant regulation of glutamate release by serotonine, may be a promising mechanism for the discovery of novel antipsychotic drugs.

THE DISRUPTION OF ZINC, MAGNESIUM AND IRON HOMEOSTASIS IS ASSOCIATED WITH DEPRESSIVE-LIKE BEHAVIOR INDUCED BY DIETARY ZINC RESTRICTION

Urszula DOBOSZEWSKA, Beata OSTACHOWICZ, Mirosław KROŚNIAK, Agnieszka WOJTANOWSKA-KROŚNIAK, Bernadeta SZEWCZYK, Katarzyna MŁYNIEC, Gabriel NOWAK

Institute of Pharmacology, Polish Academy of Sciences, Krakow, Poland & Faculty of Pharmacy, Jagiellonian University Medical College, Kraków, Poland

Introduction:

Macro- and microelements are essential for health. Our previous studies on zinc deficiency showed that a restriction of zinc in a diet leads to the development of depressive-like behavior which is associated with up-regulation of hippocampal NMDA receptor (NMDAR) subunits. Zinc is NDMAR antagonist. Other elements, i.e. magnesium and iron have also been linked to NMDAR functioning (Młyniec et al., 2014).

Methods:

Male Sprague Dawley rats were fed a zinc adequate diet (ZnA, 50 mg Zn/kg) or a zinc deficient diet (ZnD, 3 mg Zn/kg) for 4 weeks. Following 4 weeks of the ZnA or ZnD diet, the behavior of rats was examined in the forced swim test (FST) or the rats were used for analysis of selected macro/microelements in serum or structures of the brain, hippocampus (Hp) and prefrontal cortex (PFC). Zinc and iron levels were measured using Total Reflection X-Ray Fluorescence (TXRF) method, whereas magnesium concentration was measured using Atomic Absorption Spectrometry (AAS).

Results:

Four weeks of dietary zinc restriction resulted in a development of depressive-like behavior in the FST, which was accompanied by a significant decrease in serum zinc level and an increase in serum levels of magnesium and iron. Moreover, the restriction of zinc in a diet induced a decline in zinc concentration both in the Hp and PFC, whereas iron concentration dropped in the PFC, but not in the Hp. The level of magnesium differed neither in the Hp, nor in the PFC following dietary zinc restriction.

Conclusions:

Depressive-like behavior induced by dietary restriction of zinc is associated with disturbances of homeostasis of macro/microelements associated with NMDAR functioning.

Acknowledges

UD acknowledges the financial support from the project Interdisciplinary PhD Studies "Molecular sciences for medicine" (co-financed by the European Social Fund within the Human Capital Operational Programme)

MAGNESIUM (THE MASTER MINERAL) NEW EXPERIENCES

Péter CIORTEA

CSMEK Hódmezővásárhely-Makó, Hungario. Direktoro de hospitalo : dr Árpád KALLAI

Magnesium is an abundant mineral occurring in the human body. The magnesium cofactor is more than 300 enzymes in a system, it regulates a wide variety of biochemical reactions. Magnesium is needed during the production of cellular energy, also during the oxidative phosphorylatio and glycolysis. Magnesium contributes to maintain the bone structure and it is needed in the preparation of the required DNA, RNA, and the antioxidant glutathione .Magnesium plays an important role in the active transportation of calcium and potassium through cell membranes. It is significant in the management of nerve impulses, muscle contractions and in maintenance of normal heart rhythm. Magnesium deficiency is common and linked to many pathological processes, diseases: Cardiovascular disease

- High blood pressure
- Type 2 diabetes
- Osteoporosis
- Migraine, headache
- Obesity (leptin magnesium scale)
- Chronic inflammation

II. MULTIPLE SCLEROSIS – NEW MEANS OF TREATMENT

President of the section: Dr Christoph KLAWE

BRIEF OVERVIEW: NEW DEVELOPMENTS IN THE FIELD OF MS RESEARCH

Christoph KLAWE

Department of Neurology and Neurophysiology Hospital of the Brothers of Mercy, Trier / Germany

The lecture will focus on new developments in Multiple Sclerosis (MS) research and is meant to introduce the congress session on MS. It will resume current diagnostic criteria, new insights in epidemiology and the latest trends in the search for the cause of this chronic disease with an increasing incidence, especially the presumed role of the gut microbiome. Furthermore the lecture will give an overview about the new disease modifying drugs that were made available only recently, such as Teriflunomide, Dimethyfumarate and Alkemtuzumab.

La prelego enfokusigos novajn evoluojn koncerne la esploradon de Multobla Sklerozo (MS) kaj volas enkonduki la kongresan sesion pri MS. La prelego resumos aktualajn kriteriojn por la diagnozo, novajn sciojn pri la epidemiologio kaj la plej novajn tendencojn de la serĉado je la kaŭzoj de tiu kronika malsano, kies incidenco daŭre kreskas – speciale la verŝajnan rolon de la intestina mikrobiomo. Plie la prelego prezentos superrigardon pri la novaj medikamentoj, kiuj ŝanĝas la sinsekvon de la malsano, kaj kiuj nur estis disponigitaj antaŭ nelonge, ekzemple Teriflunomido, Dimetilfumarato kaj Alemtuzumabo.

OUR EXPERIENCES WITH NATALIZUMAB TREATMENT IN MS PATIENTS

Zsuzsanna PÁL , B. GOMBOS, D. BERECZKI, M. SIMÓ

Natalizumab (NTZ) is a humanized monoclonal antibody developed for the treatment of multiple sclerosis. NTZ inhibits the lymphocyte traffic through the blood-brain barrier. The drug reduces the number of relapses (disease activity) and prevents disease progression. The potential side effect is PML (progressive multifocal leucoencepalopathy) which occurs in JC virus antibody positive patients after two-year of treatment.

The authors review the guidelines for NTZ treatment of multiple sclerosis patients used in Hungary: the screening procedure, the follow-up of patients, the laboratory, MRI and psychological tests done regularly. They also summarize their experiences with Tysabri treatment.

According to their observations, natalizumab therapy is a highly effective mode of treatment in patients with very active form of multiple sclerosis.

THE APPLICATION OF OPTICAL COHERENCE TOMOGRAPHY (OCT) IN MS

Erika TÁTRAI, Gábor Márk SOMFAI

Department of Ophthalmology, Semmelweis University, Budapest, Hungary

Optical coherence tomography (OCT) is a non-invasive, non-contact imaging modality that has become substantial in the diagnosis and management of retinal diseases since its introduction more than two decades ago. The latest generation of OCT devices provides cross-sectional images of the retina with 3 to 5 um axial resolution. With the improvement of the resolution, not only the identification of the intraretinal structures became easier but also retinal thickness measurements are more reliable. The softwares of most OCT devices also allows the thickness measurement of the ganglion cell and inner plexiform layer complex (GCIPL) or the ganglion cell complex (GCC, comprising the GCIPL and the retinal nerve fiber layer (RNFL)) in the macula. Taking advantage of these new developments, there is evidence pointing towards the usefulness of OCT in the management of neurodegenerative diseases. Several studies have evaluated the thickness of the GCIPL or GCC in the eyes of patients with multiple sclerosis (MS) and found that while the thickness of these layers in the macula was normal in the acute stage of optic neuritis (ON), they showed significant thinning months after the episode. Interestingly, the thickness of the ganglion cell layer was also found to be decreased in the eyes of MS patients without ON in history. The peripapillary RNFL thickness was also shown to be decreased; however, the reliability and reproducibility of the measurements are lower and the swelling of the optic disc in the acute phase might disturb the monitoring of the RNFL loss. As both peripapillary RNFL thickness and the thickness of the ganglion cell layer was found to correlate with contrast sensitivity and EDSS score, they might serve as surrogate markers of neural loss in MS.

ANALYSIS OF BRAIN STEM RESPIRATORY CENTER FUNCTION BY USE OF MATHEMATICAL APPARATUS OF CHAOS THEORY

Roman MAZUR[1], Grzegorz OSIŃSKI[1], Andrzej OGONOWSKI[2], Gerhard MIKOLAICZIK[1], Magdalena TRZCIŃSKA[1], Maciej KLIMARCZYK[1], Tomasz PAŁKA[1], Wiktoria RAJCZYK[1], Robert PRINC[1], Jacek ŁUBKOWSKI[2], Marek M. CHOMNICKI[2]

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Background

On the basis of the analysis of brain stem respiratory center function, interpreted as a center of brain homeostasis, Authors assessed the relationship between the breathing curve dynamics and clinical status of patient with stroke.

Methods

Brain spirography method, that enables recording of slow-wave and fast-wave respiratory curves and analyse them by use of chaos-mathematics, as well as the assessment of the extent of brain energy deficit were used for homeostasis balance measurement. 200 patients with ischemic and hemorrhagic stroke were enrolled into the study. On the basis of selected case study, we present an authorial proposal of an algorithm that enables qualitative and quantitative assessment of brain stem homeostasis center function fluctuations, as well as brain energy deficit range evaluation.

Findings

Two authorial study models were used to assess the internal balance among patient with stroke. The clinical model enables estimation of the extent of brain structures involved in homeostasis disturbances as well as concomitant energy deficit on the basis of consciousness and body control disturbances. Mechanical model is based on the use of brain spirography, which enables recording of the brain stem respiratory center function that reflects the dynamic changes of human homeostat. It was also assumed, that there exists a superior brain regulatory mechanism known as human homeostat. Dysfunction of balance and energy of this mechanism lead to disturbances of consciousness, motor function and coordination, as well as cognitive dysfunction. This is also accompanied by loss of control and cognitive functions of the brain in relation to systems located outside the brain.

Interpretation

There is a clear relationship between changes of brain stem respiratory center function and clinical status of patient with stroke. Breathing curves analyses, including RMR and increased FD values enable observation of decreased energy supplies indicating brain homeostasis collapse and critical worsening of patient's clinical status. Implementation of brain spirography in the monitoring of the dynamics of stroke provides better objectivization of the severity of the patient's condition, assessment the treatment efficacy, and prognosis evaluation. Study results support brain stem respiratory center as the basic anatomical substrate of human homeostat.

LÁSZLÓ BATTHYÁNY-STRATTMANN, PRINCE OF NÉMETÚJVÁR

(Dunakiliti 1870, Vienna 1930)

Endre DUDICH

Batthyány is one of the great families of the Hungarian Catholic aristocracy. László studied in Vienna agronomy and chemistry, obtaining PhD in 1897.

After his father's death, László, studied medicine at the Vienna university, obtained DM in 1900, and specialized in Ophtalmology. He married Countess Maria Teresa von Coreth zu Starkenberg. They had 13 children.

László inherited the double name, the status of a prince of the Austro-Hungarian Empire and the huge latifundium. He insisted on taking care of the poor, building subsequently even two hospitals for them. There they recieved efficient therapy in a most amical, religious atmosphere,. László was offered a chair at the Vienna university, but he declined, preferring to stay with his poor patients.

After a long, heroically tolerated suffering he died of cancer in Vienna. He is b uried int he family crypt.

Pope John Paul II declared him „beate" in Rome in 2003.

ALTERATION OF VISUAL ATTENTION IN PATIENTS WITH MULTIPLE SCLEROSIS

Szilvia GULYÁS, Veronika ZVÉR, Imre SZIRMAI, Anita KAMONDI, Magdolna SIMÓ

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Multiple sclerosis (MS) is a widespread neurological disease affecting the periventricular white matter due to demyelinated plaques. These plaques may interrupt the connection of frontal and parietal association areas which play important role in visual attention functions. The optokinetic nystagmus (OKN) is a reflexive, periodic eye movement which helps to hold the image of a moving target on the fovea. Visual attention is needed to maintain continuous OKN therefore OKN might be used to examine visual attention.

Thirty patients with MS and 18 age- and gender-matched controls were examined. Patients with abnormal eye movement (internuclear ophthalmoplegia or third or sixth nerve palsy) or retrobulbar neuritis were excluded. Several periventricular plaques were seen on MR images of every patient. OKN was stimulated by computerized rotating drum projected onto a screen. Stripes were moving to the right and left with 30 degree/s velocity. Eye movement was recorded by standard electro-oculography. We measured the latency of OKN, the maximum duration of continuously appearing OKN epochs, the average duration of each continuous OKN period. Relative duration of OKN was calculated as the ratio of the total duration of OKN and the total duration of stimulation.

Irrespective of the direction of the stimulation the maximum OKN duration decreased to one third of control value, the average duration of OKN epochs decreased by thirteen seconds, as well as the relative duration of OKN decreased by thirty percent in MS patients. Decrease of relative duration of OKN correlated to the duration of the disease. These changes were statistically significant. The latency of OKN was similar to that of the control group.

Decrease of maximum, average and relative duration of OKN in patients with MS may indicate the dysfunction of structures which are responsible for the maintenance of OKN. On the other hand the appearance of OKN is intact which is suggested by the finding that the latency of OKN is similar to that of healthy subjects. The maintenance of OKN is a parietal-frontal cortically mediated attentional process rather than the appearance of OKN which is generated by the brainstem. Our results suggest that MS may cause disconnection syndrome affecting the fronto-parietal network responsible for visual attention.

III. DRUG ADDICTION – EMERGING PRECLINICAL FINDINGS

Presidents of the section: Prof. dr hab. Małgorzata FILIP and Dr Anna SADAKIERSKA-CHUDY

AN IMPACT OF ENDOCANNABINOID/ENDOVANILLOID NEUROTRANSMISSION TO COCAINE ADDICTION

Małgorzata FILIP[1,2], Przemysław ADAMCZYK[1], Beata BYSTROWSKA[2], Irena SMAGA[2], Edmund PRZEGALIŃSKI[1]

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Introduction:

The endocannabinoid (eCB) system includes endogenous lipid molecules, such as anandamide and 2-arachidonoylglycerol (2-AG), the type 1 and type 2 cannabinoid (CB) receptors and several specific membrane-bound biosynthetic and degradative enzymes. This system is involved in a host of homeostatic and physiologic functions including synaptic transmission, neuronal firing and neurotransmitter release [Di Marzo, Proc Natl Acad Sci USA, 2011]. It also mediates goal-maintained behaviors and pathologies affecting these processes. More recent evidence suggests that the CB transmission may control drug addiction, however, the literature regarding CB effects on the actions of drugs of abuse remains contradictory [Filip et al., Pharmacol Rep, 2006; Olière et al., Front Psychiatry, 2013; Panlilio et al., Pharmacol Ther, 2013].

Aim:

We addressed the role of the CB receptors in the expression of cocaine-induced rewarding and seeking behaviors in intravenous self-administration and a drug-free extinction training procedures in rats.

Materials and methods:

We used male Wistar rats and cocaine intravenous (i.v.) self-administration and an extinction/reinstatement procedures. Pharmacological tools such as the CB1 receptor

antagonist AM 251 and the CB2 receptor blocker SR144528, as well as ex vivo autoradiographic analyses with [3H]CP 55,940) and neurochemical measurements of the tissue eCB concentrations via an LC-MS/MS method were also employed.

Results:

We found that constitutive activation of CB receptors does not maintain cocaine reinforcement. We also show inhibitory effects of CB1 and CB2 receptor antagonists on drug-primed cocaine-seeking behavior. In contrast to CB1 receptors, CB2 receptors do not affect cue-induced reinstatement of cocaine-seeking behavior. With using the same experimental protocols as in behavioral pharmacological studies and a "yoked" procedure to separate pharmacological vs. motivational effects of cocaine, we demonstrated selective CB1 receptor control over motivational and cognitive processes. In some rat brain regions we found alterations in levels of anandamide and 2-AG that were maintained over a long-lasting extinction period. In some rat brain regions we found alterations in levels of anandamide and 2-AG that were maintained over a long-lasting extinction period.

Conclusion:

Our findings support the evidence that the eCB system is involved in reinforcement and extinction of reinforced behaviors and that the lipid-derived molecules may represent promising targets for the development of new treatments for cocaine addiction.

Acknowledgements:

These studies were supported by the statutory activity of the Laboratory of Drug Addiction Pharmacology (Kraków) and of the Department of Toxicology (Kraków).

DIFFERENT LIVING CONDITIONS DURING COCAINE ABSTINENCE CHANGE A DENSITY OF MGLUR5 IN BRAIN LIMBIC REGIONS IN RATS

Małgorzata FRANKOWSKA[1], Lucyna POMIERNY-CHAMIOŁO[2], Joanna MISZKIEL[1], Bartosz POMIERNY[2], Ewa NOWAK[1], Małgorzata FILIP[1,2]

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Introduction

Drug dependence is a chronic and relapsing brain disorder, in which compulsive drug-seeking and drug-taking behaviors persist, despite negative consequences. Relapse, accompanied by psychiatric, somatic and vegetative disturbances can be triggered, even after long periods of abstinence. A recent studies focused on role of environment conditions such as an enriched environment (presence of social cohorts and novel objects) or an isolated environment (no cohorts or novel objects) during drug abstinence that influence drug craving and relapse. Environment conditions may create new associations in the brain, and such neurobiological adaptations include changes associated with several forms of synaptic plasticity and learning behaviors. Several evidence suggests that the glutaminergic transmission and mGluR5 are involved in synaptic plasticity as well as drug seeking and relapse behaviors [Kalivas and Volkow, 2011 ; Pomierny-Chamioło et al., 2013].

Aim

The aim of study was to further uncover the role of mGluR5 in craving-related brain neuroadaptations in rats self-administered cocaine. We hypothesized that environmental conditions may change mGluR5 binding parameters (Bmax, KD) in rat brain structures associated with seeking and relapse behaviors.

Material and Methods

The experiments were performed on male Wistar rats underwent catheter implantation and were trained to self-administer cocaine (0.5 mg/kg/infusion) under a fixed ratio 5 schedule of reinforcement during 2h daily session. Each cocaine infusion was paired with the contextual cues (tone+light). After 14 days of self-administration of cocaine when were observed animals' stabilized responding, rats were exposed to live in either isolation conditions (home cage; HC), or exposed to experimental cage (EC; no access to cocaine and without cues), or exposed to enriched environment (EE) during a period of forced abstinence. The brain tissues were collected following 14 days of abstinence and with using the titrated receptor antagonist [^{3}H]MPEP, several binding assays were performed to evaluate mGluR5 density. To generate control groups, a 'yoked' procedure was used.

Results

EC resulted in a significant decrease (by 29%) in density of mGluR5 in the prefrontal cortex and an increase (ca. 26%) in the nucleus accumbens in rats previously self-administered cocaine. A trend to decrease in mGluR5 density was detected in prefrontal cortex (20%) in their littermates receiving yoked cocaine infusions. Abstinence in EE evoked a significant decreased in the prefrontal cortex (by 11%) and increase in the nucleus accumbens (by 20%) in rats self-administered cocaine with no changes in cocaine 'yoked' animals. In the brains of rats withdrawn in HC we observed a significant reduction in [^{3}H]MPEP binding to mGluR5 in the hippocampus of rats actively (by 24%) and passively (by 19%) administered cocaine. Moreover, cocaine self-administration and subsequent HC isolation produced decreases (ca. 25%) in mGluR5 density level in the prefrontal cortex.

Conclusion

We report that differences in the mGluR5 density in several rat brain structures reflect living condition during abstinence from cocaine. Our binding analyzes confirm the significance of mGluR5 to be a target to reduce drug craving, and presumably incentive motivation.

This study was supported by the grant no. 2011/03/D/NZ7/06295 by the NCN (Kraków, Poland) and by the statutory activity of Institute of Pharmacology PAS.

THE EFFECT OF COCAINE SELF-ADMINISTRATION ON MITOCHONDRIAL DNA IN VARIOUS REGIONS OF RAT BRAIN. PRELIMINARY STUDY

Anna SADAKIERSKA-CHUDY[1], Agnieszka KOTARSKA[2], Małgorzata FRANKOWSKA[1], Joanna JASTRZĘBSKA[1], Joanna MISZKIEL[1], Karolina WYDRA[1], Agata SUDER[1], Ewa NOWAK[1], Małgorzata FILIP[1]

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Introduction

The precise mechanisms underlying cocaine addiction are still incompletely understood. Addictive drugs such as cocaine induce synaptic plasticity in discrete regions of the reward circuit. ATP hydrolysis is important for synaptic transmission and plasticity, the neurobiological processes underlying drug addiction. Emerging evidence suggests that cocaine may directly influence mitochondrial function and decrease rat brain respiratory chain activity in complex I. It is known that mitochondria are crucial for neuronal activity and their function is strongly associated with the amount and quantity of mitochondrial DNA (mtDNA). Mitochondrial genome is vulnerable to exogenous factors including pharmaceuticals and environmental toxicants. Considering the relationship between mitochondria and chemical factors we carried out a study to assess the effects of cocaine on mitochondrial genome.

The aim of our study was to assess the changes in mtDNA copy number and alterations of the expression of two mitochondrial protein-encoded genes in the rat brain structures after self-administration of cocaine. The difference in the level of transcription in the heavy and light strand of mtDNA were also analyzed.

Aim

The aim of our study was to assess the changes in mtDNA copy number and alterations of the expression of two mitochondrial protein-encoded genes in the rat brain structures after self-administration of cocaine. The difference in the level of transcription in the heavy and light strand of mtDNA were also analyzed.

Material and Methods

The intravenous cocaine self-administration (access for 2h/day; 0.5 mg/kg/infusion) and `yoked` procedure were used in adult male Wistar rats. The brain tissues were collected during extinction phase (the 3rd day) in two groups (active cocaine self-administration, passive injection of saline). DNA and total RNA were co-extracted from the rat hippocampus, dorsal striatum and prefrontal cortex. The samples were analyzed for mtDNA copy number using a quantitative real-time PCR assay. The specific probes and primers (Applied Biosystems) for the mtDNA gene ND1 and for the nDNA gene HBB were used. The mtDNA copy number was calculated as a ratio of mtDNA/nuclear DNA. The expression of selected mitochondrial genes

encoded proteins (ND1 and ND6) were analyzed by real-time PCR with TaqMan assay (Applied Biosystems). Results were normalized by GAPDH mRNA level and relative quantification was performed using the comparative Ct method (delta delta Ct). Statistical analysis was carried out using t-test.

Results

The results indicate that cocaine self-administration caused statistically significant changes in mtDNA copy number in the analyzed rat brain structures. More than 3-fold increase was observed following cocaine self-administration compared to the `yoked` saline control. The expression level of two genes (ND1 and ND6) was similar in active and `yoked` saline control group as well as there was no difference in the level of transcripts from the mitochondrial heavy and the light strands.

Conclusion

Our preliminary study indicated that self-administration of cocaine can significantly increase mtDNA copy number in the rat brain structures linked to addiction phenotype features. We hypothesized that repeated cocaine administration generates reactive oxygen species that influence replication and transcription of mtDNA. However, further studies are required to determine the mechanisms by which cocaine induces an increase of the mtDNA copy numbers, and why it does not increase the level of transcripts.

This study was supported by the National Science Centre grant no. UMO-2012/06/A/NZ3/00022 (Poland) and by the statutory fund of the Institute of Pharmacology PAS.

PHARMACOVIGILANCE SYSTEM – PATIENTS' SAFETY IN THE FOCUS

Paweł RAKOWSKI

GEDEON RICHTER

Everyday trillions of medicinal products have been taken safely for restoring the health condition and bringing help to million patients all over the world. All medicines have potential risks as well as benefits. The aim of pharmacovigilance is to protect public health by identifying, evaluating and minimizing safety issues to ensure that the overall benefits of medicines outweigh the risks. Patient safety is a serious global public health issue.

The safety and the efficacy of drugs are determined during the development Phase. The information on drug safety from clinical studies is, however, limited because the treatment time in studies is usually short and the number of patients exposed to the drug is relatively small and the patient population carefully selected. Due to this rare adverse effects e.g. or those related to long-term treatment may not be detected.

Pharmacovigilance (abbreviated PV or PhV), also known as Drug Safety, is the pharmacological science relating to the collection, detection, assessment, monitoring, and prevention of adverse effects with pharmaceutical products. The etymological roots for the word "pharmacovigilance" are: pharmakon (Greek for drug) and vigilare (Latin for to keep watch). As such, pharmacovigilance heavily focuses on adverse drug reactions, or ADRs, which are defined as any response to a drug which is noxious and unintended, including lack of efficacy.

Patient safety is the fundamental principle for Gedeon Richter Group, ahead of commercial or other interests. We conduct our clinical trials according to high standards of ethics and safety, and we are committed to transparency on the benefits and risks of all our medicines in all communications with patients, prescribers, payers and regulators. The lecture will bring a quick overview, how the system is focused on defending patients safety.

IV. PREVENTION PART 1&2

Presidents of the section: Prof. dr Károly CSEH, Dr Lajos MOLNÁR, Dr József GÁL, Dr Julianna FARKAS

PERCEIVED STIGMA IN PEOPLE LIVING WITH HIV IN HUNGARY

Vince PONGOR

Semmelweis University, Faculty of Medicine, Department of Public Health

Fear of stigma and discrimination are very important as they may decrease treatment adherence and may hinder people from taking voluntary screening tests. Decreasing stigma and discrimination against people living with HIV may help to slow down the dynamics of the pandemic. In order to take proper and efficient measures, stigma levels must be assessed.

Our goal was to measure the perceived stigma of people living with HIV in Hungary by using the Berger Stigma Scale. The Berger Stigma Scale is divided into one main scale and four subscales which are as follows: personalized stigma subscale, disclosure subscale, negative self-image subscale, public attitudes subscale. Apart from measuring stigma, we also asked questions about the spreading preferences of HIV. Our hypothesis was that higher levels of knowledge would result in lower scores on the stigma scale.

Comparing the results with other studies, we found that perceived stigma among Hungarians living with HIV was lower. These results however are inconclusive because of our small sample and the very different layers of stigma. We also found no connection with scores and knowledge about HIV, but the results here too were inconclusive because of the same reasons mentioned before.

These results alone are not as important as the role they may play to assess the effectiveness of educational programs and the change of attitudes towards people living with HIV in the long run.

TRENDS IN ALTERNATIVE TOBACCO PRODUCT EXPERIMENTATION AMONG METROPOLITAN ADOLESCENTS

Melinda PÉNZES

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Background: Experimentation with and use of manufactured cigarette is the most common among adolescents, however, alternative tobacco product (ATP) experimentation would be also important to consider. Several ATPs are accessible legally or illegally in Hungary. Previous national studies of this issue have not provided detailed information about the experimentation of ATPs and its predictors among young people. The aim of this study to monitor the changes in ATP-experimentation among metropolitan adolescents who have ever tried tobacco smoking; and to explore socio-demographic, individual and social factors of the experimentation.

Methods: A three-year longitudinal cohort study was conducted in Budapest and five metropolitan cities among 6th and 9th grade students at baseline (n=1095; 54% girls). Nonparametric tests and binary multivariate logistic regression models were used to analyze the experimentation of five ATPs (hand-rolled cigarettes, cigars and cigarillos, waterpipe, pipe, flavored cigarette).

Results: Experimentation with ATPs increased significantly for the end of the study (T1: 76%, T2: 81%, T3: 87%; $Q_{(2)}$=22.47, $p<0.001$) and the greatest increase were seen in the case of cigars and cigarillos (18.2%) and flavored cigarettes (17.9%). Ever trying of ATP was strongly increased from grade 7th (56.6%) to grade 8th (74.8%). At the end of the study, boys, those who studied in the capital, had poorer academic achievement, higher weekly income and more smoking best friends at baseline, reported ever trying multiple types of ATPs with greater odds. Male gender and smoking best friends predicted each ATPs'experimentation, while in the case of waterpipe, nonsmoking home environment also proved to be a predictor.

Conclusions: Experimentation with ATPs is not negligible among adolescents who have ever tried tobacco smoking. These results could help developing targeted prevention programs for identified risk groups.

Funding

This publication was made possible by Grant Number 1 R01 TW007927-01 from the Fogarty International Center, the National Cancer Institute, and the National Institutes on Drug Abuse, within the National Institutes of Health (NIH). Its contents are solely the responsibility of the author and do not necessarily represent the official view of the NIH.

COMPARISON OF PSORIASIS-TREATMENT RESULTS BY ITS PASI (PSORIASIS AREA AND SEVERITY INDEX)-SCORE ADVANCES OF BILE-ACID-THERAPY

Julia KONCZ, Klára GYURCSOVCS, Lóránd BERTÓK

Semmelweis University, Faculty of Medicine, Department of Public Health

Introduction: Effective treatment and therapy of psoriasis have prominent importance in Hungary and world widely also because of its population high frequency, enhancing this problem on public health level (100 000 million persons per years and countries with 1,5-3% of whole population) 1,5-2% morbidity in Europe and 140 000-200 000 cases in Hungary show it one of most frequent non-communicable cutaneous disease .Attached to the psoriasis more serious non-communicable diseases cause important preventive and clinical troubles with doubled normal range (prevalence:30-35%). Responsible for the accelerated proliferation of keratocytes and the triggered skin-symptoms cascade of autoimmune phenomenon plays determinant role in the pathomechanism of psoriasis by their self-induced inflammatory mediators (cytokines) and inducing them endotoxin-macromolecules (lipid A). Toxic effect depends on the lipid part of endotoxin-molecule which intestinal detoxication consequently binds to the bile-acids. (Kocsár et al., 1969) (Bertók, 1977, 1999).

Recognition of bile-acid's role in the endotoxin- detoxication and parallel cytokine-mediated psoriasis evoked important question about the possible role and efficiency of bile-acids in the psoriasis-therapy. These facts gave grounds for research of new drugs and treatments of psoriasis to block the pathological process at the initiating step.

Aims: To compare treating methods and their efficiency (biological therapy, alfa-calcidiol-treatment, antioxidants) in a reason to consider therapy method.

Method: Efficiency of treatment evaluated with comparison of investigational results and collating PASI-scores (Psoriasis Area and Severity Index).

Results: Treated patients with traditional therapy became symptomless 62 (24, 9%) ($p < 0,005$) contrary the 551 psoriatic patients after 1-8 week bile-acid therapy per os

434(78,8 %) (Suprachol®, Acidum dehydrocholicum) which proved more efficient in the acute cases : 95,1% of patients became symptomless (Gyurcsovics-Bertók,2000.,Itoh et al.,2007).

Conclusions: Evaluations proved the cheapest and simplest bile-acid treatment the most usable for the psoriasis-therapy.

HYPERTENSION IN THE ELDERLY ROMA POPULATION IN HUNGARY

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The health status and health behaviour of the Roma population is unfavourable. New, culturally tailored intervention programs are needed, hence a network of Health Promotion Clubs (HPC) was established targeting more than 2,000 elderly Roma people. Initially, health status and health behaviour survey was made. Blood pressure and body mass index were also measured. Three main subgroups were specified in the population, namely Boyash, Olah and Romungro.

1498 persons reported any diseases. There were significant differences according to age, gender, settlement and subgroup. Males reported 5, while females reported 9 different kinds of diseases. Members of the Romungo subgroup and Roma living in villages reported less diseases. This paper's focus is the hypertension as the most frequent disease.

Health behaviour questionnaire was filled out by 1700 Roma people over the age of 60. The mean age was 66, the average income was very low. Majority of the people have not finished the basic education. 68% of the participants had high blood pressure.

Data analysis was conducted using binominal regression analysis taking account of income, age, gender, education, settlement and income. Living in cities was protective compared it to villages (OR: 0,720 CI: 0,56-0,91). Hypertension was diagnosed more frequently among educated persons (OR: 1,50 CI: 1,01-2,21) and less frequently among males (OR: 0,34 CI: 0,26-0,44) and in the Boyas subgroup. (OR: 0,58 CI: 0,35-0,95). Only 54% of hypertension cases was previously diagnosed. The Boyas had a higher chance of having undiagnosed hypertension than Romungros. Males and members of the Boyas group were found to be less likely to receive pharmacotherapy.

By identifying the risk factors in the Roma population we could maximize the efficiency of culturally tailored intervention programs.

THE EXPERIENCES OF NOSOCOMIAL SURVEILLANCE USAGE

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The 20th century proved to be a real success with working up of vaccinations and discovery of antibiotics in struggle against infections. However thirty years has even not passed yet since usage introduce of first antibiotics, some warning signs showed that the knowledge we obtained does not authorize us to employ it with irresponsibly and without any risks.

At the beginning the almighty thought penicillin turned out immediately that part of pathogen quickly adapted against the new "enemy" so the race has started that is now continuing. In 1960 years the first publications were occure about the meticillin resistance of the Staphyllococcus aureus phyla but the pathogen really was named as MRSA from the 80-s. The situation became complicated on because it is observable the resistance of the majority of bacterium specieses against not only one but more antibiotics and antibiotic group. Even it turn out that microbes previously named apatogen as Staphylococcus epidermidis or some Candida phyla can cause serious disease in case of meeting sensitive, low immunity organism.

The overcome of nosocomial infections is one of the biggest challenge of our age in infections field. Although nowadays the urine infections is the most frequent disease that occures in 40%, as opinion of some bibliographies the nosocomial blood-stream incest is the 10th cause of death in the United States of America. The patients suffered with this disease spend more time in intensive care and their mortality is much higher.

As the antibioticum resistance began to spread in the world the multiresistant pathogens (MRP) concept was inroduced some years ago. The National Epidemiological Center listed 10 multiresistant pathogen phyla in 2011 (which is really 9 but Staphylococcus Aureus in MRSA and VISA (vancomycin) indicated twice) but its number expectedly will be grown.

In 2004 Eropean Union founded the European Centre for Disease Prevention and Control that Hungary joined, too. The National Nosocomialis Surveillance System (NNSS) has begun its work in the 4th quarter of 2004 under direction of the National Epidemiological Center (NEC). The primary aim was the prevention of avoidable infections in the institutes of active bed-patients and working out of national strategics. The EFRIR system was established where the following nosocomial infections had to be reported: nosocomial infection, nosocomial blood-stream incest, infections caused by MRP. In 2012 OSZIR system was introduced, too.

Furthermore it is sayable that the clinical colleagues' knowledge about importance of nosocomial infections and its connected compulsory tasks is not suitable. The surveillance is not the integral part of medical thought yet. There are much problems with announcement discipline as denying of infections nosocomial being is also much times explained with ignorance.

NUTRITIONAL HABITS OF FOURTH YEAR MEDICAL STUDENTS

Szilvia BARCZI

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The healthy behavior of medical professionals is very important as they not only inform their patients about healthy living but are also role models for their family and acquaintances. The goal of this study was to assess the nutritional habits of fourth year medical students.

As a part of the questionnaire participants were asked to register their diet on three consecutive days and answer questions pertaining to their biometric status, lifestyle, nutritional habits, alcohol consumption, and physical activity. The participants had to assess their own subjective health status as well.

Overall 77% of the participants believed to be in good health. Inconsistent and not regular meals were very frequent, females however were more likely to eat at regular intervals. Examining the diet diaries, the participants show a relatively high intake of saturated fats and low intake of unsaturated ones. Calculating their BMI we found that 70% of the sample fell into the normal category, 30% of male students fell into the overweight and obese category, whereas 14% of the female students were underweight. Physical activity is one of the most efficient preventive measures. Sadly a very significant part of the sample was not physically active at all.

HUNGARIAN HIGH-SCHOOL STUDENTS' ATTITUDES TOWARD THE HPV VACCINE

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Almost 500 women die from cervical cancer in Hungary each year. The mortality rate has remained unchanged for several years despite the national screening program – targeting the female population between the ages 25 to 65 – that has been established in 2003. The program's moderate success might result from the lack of motivation, most specifically the lack of knowledge regarding the disease. In 2007, the HPV vaccine joined the forces of primary prevention and became accessible to young girls and women worldwide. The vaccination of boys has been possible since 2009 but its cost-effectiveness is still a subject of dispute.

AIMS: The study aimed to explore the attitudes of high school seniors – possibly being at the dawn of their sexual lives – in Budapest toward the HPV vaccine and their knowledge of cervical cancer.

METHODS: 492 girls recruited from 12 randomly selected high schools completed our questionnaire consisting of 54 multiple-choice questions concerning basic socio-demographic and lifestyle factors among questions assessing their knowledge of cervical cancer and their attitudes toward the HPV vaccine. 52,6% of the sample studied in vocational schools and the rest of the girls went to grammar schools. We conducted prevalence analysis, X^2 tests and logistic regression in SPSS 21.0 to analyze our data.

RESULTS: Only 33,7% of the participants were aware of the link between HPV and cervical cancer, but 70% identified the HPV infection as an STD. 23% of the girls – significantly more from grammar schools than vocational schools ($p < 0,001$) – had already received the vaccine, while further 13,9% desired to be vaccinated in the future. 29,9% were concerned about being at risk of HPV infection, and 63,2% – significantly more from vocational schools ($p < 0,008$) – even wished to vaccinate boys as well. 79,5% would have her future child vaccinated, and 59,9% would add the HPV vaccine to the compulsory vaccination program.

Awareness of the availability of a vaccine, the impression of being at risk and the acceptance of other mandatory vaccines associated strongly with wanting to make the HPV vaccine compulsory and having it given to their future children. Wanting to extend the HPV vaccine among boys associated strongly with the menace of the infection ($p = 0,046$) and the acceptance of other mandatory vaccines ($p = 0,036$). The risk of side effects played the part of an important deterrent to making the vaccine compulsory ($p = 0,014$) or wanting their future children vaccinated ($p = 0,004$).

CONCLUSIONS: The knowledge of the girls from our sample regarding cervical cancer and the HPV vaccine proved to be unsatisfactory, therefore further improvement of health education might be contemplated. More thorough knowledge correlated with higher vaccine acceptance, which result also accentuates the importance of subject-specific education.

STUDY ON THE CAUSES OF LATE INCLUSION OF WOMEN IN THE SPORTS OF ROWING

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Even if rowing is one of the main sports of the new age Olympic Games, women were first allowed to take part in rowing events in Montreal (1976). The first European championship for men was held in 1893, while the first competition for women was organized only in 1954. The goal of my study is to examine the causes of this latency, especially the contemporary beliefs on the effects of rowing on the health of women.

As a source I used the sixty volumes of the Gustav Götz heritage in possession of the Hungarian Rowing Association. Gustav Götz (1900-1970) was a European champion, coach, chief secretary of the association, and passionate collector of both national and international literature on rowing. He gathered and organized these published materials on sporting events and their results, articles that appeared in Hungarian, German, English, French, Russian and Italian newspapers, even coaching programs and diaries. The materials on the history of women in rowing, the reports and narratives about these events were filed in separate volumes. His personal reports, accounts, train tickets, suggestions on members to be included on the team, invitations to rowing banquettes, menus, and photographs are one of a kind in their nature.

The causes of the very slow acceptance of women in rowing appear dispersed in especially those volumes that contain materials from the FISA (Fédération Internationale des Sociétés d'Aviron – International Rowing Association) congress, experts' advisements, sports health documents and interviews. One of the main causes seem to be the differences in opinions between the FISA members. Certain countries supported the unconditional inclusion of women (e.g. Holland, Belgium, UK, Poland, and Hungary), while other countries would allow women to only scull but not sweep (e.g. GDR and France). Some countries (e.g. Switzerland and Italy) however urged the comprehensive ban. These differences were caused mainly by the inconsistent results of sports health studies used and the sometimes contradicting interpretations.

My goal is to use Gustav Götz's sixty volumes in possession of the Hungarian Rowing Association to show the causes of late inclusion of women in the sports of rowing. Examining the reports, experts' advisements, articles on the history of rowing, and sports health studies, we see that the differences in opinion were only strengthened by the inconsistent results and contradicting interpretations.

MEDICAL STUDENTS' HEALTH BEHAVIOUR AND SELF-REPORTED MENTAL HEALTH STATUS BY THEIR COUNTRY OF ORIGIN

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Semmelweis University, Faculty of Medicine, Department of Public Health

Introduction: Medical students' lifestyle and self-perceived health status are often investigated, though only a few studies compare different populations. One determining factor of the behavioural patterns can be the impact of cultural and geographical background therefore comparing foreign and Hungarian medical students' health behaviour is justifiable.

Materials and methods: Our cross-sectional self-administered questionnaire survey was repeated in 4 consecutive years (2009-2012) among 4th year English and Hungarian-language course medical students at Semmelweis University, Hungary. With a response rate of 46.16% 777 individuals filled our questionnaire totally and 608 were sorted into subgroups by their countries of origin. Prevalence of tobacco smoking and alcohol consumption, dietary habits, physical exercise patterns and mental health status were recorded.

Results: The respondents' mean age was 24.14 years (SD: 2.42). 15.3% of students reported to follow a healthy diet and 75.0% exercise regularly and vigorously. The prevalence of tobacco smoking was 18.6%, and alcoholic beverages were abused by 13.8% of the sample. Hungarian and Iranian students evaluated their mental well-being lower than Mediterranean, Israeli and Scandinavian students. Vigorous exercise showed a positive interrelation with a favourable mental health status.

Conclusions: Medical students' mental health is influenced by multidimensional factors. One of these may be the country of origin. When organising mental health trainings in medical schools open for students from abroad, the country of origin as a socio-cultural factor should be taken into account for creating specifically adapted programs.

POISONINGS AND THEIR ROLE IN SUICIDES COMMITTED BY CHILDREN AND TEENAGERS IN HUNGARY

Gabriella BESENYEI

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Hungary is one of the leading countries regarding its number of suicides. Our goal was to examine the characteristics of completed suicides and suicide attempts committed with poisonous substances among children and teenagers.

Between 2011 and 2012 there were 33,441 reported cases of poisonings in Hungary, 7,307 (21.8%) cases were committed by victims under 19 years of age. Children represent a highly vulnerable group, this is why their treatment needs special attention. Poisonings in childhood usually happen as the result of accidents. In Hungary there are 3,500 poisoning accidents among children and teenagers each year, making it the third most frequent group of accidents leading to death. Examining these poisoning cases we find two age groups that stand out from the rest with their high numbers: the 1-4 and the 15-19 age group. The sum of cases in these two groups make up 80% of the total number.

Completed suicides are fairly uncommon in childhood, but become more frequent among teenagers, where they represent the second or third most common cause of death. At the beginning of puberty we cannot find significant differences between genders, but reaching the age of 14, we see a significant increase among females in regards of suicide attempts. In adolescence the usual tendency can be observed: compared to females, suicide attempts are lower, whereas finished suicides are higher among males.

SKIN CANCER SCREENING IN SOUTH-WEST HUNGARY

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Between 2007 and 2012 a Complex Mobile Screening Programme operated in the Southern Transdanubian Region, which included skin cancer screening as part of a wide variety of specialties. The region is economically disadvantaged. There were close to 30 villages visited during more than 100 screening days. The authors present the dermatological data acquired. Besides finding several cases of melanoma and non-melanoma skin tumours, there was an abundant number of other skin conditions, which may be due to patients trying to access a dermatologist without having to travel to the city.

V. SESSION OF YOUNG SCIENTISTS

Presidents of the section: Prof. dr hab. Małgorzata FILIP and

Prof. dr hab. Dariusz ADAMEK

BEHAVIORAL EFFECTS OF ADENOSINE (A2A) RECEPTOR LIGANDS ON COCAINE AND FOOD RELAPSE IN RATS

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Introduction

Cocaine belongs to the drug most powerful abuse substances in humans which addiction generally starts with the drug recreational use, then deteriorates over time into a compulsive drug-taking and provides a high risk of relapse. The mechanisms responsible for cocaine reward and relapse are not completely understood [1], what makes current medication therapies non-effective. One of the target of cocaine's action are dopamine (DA) transporter (DAT) and DA D_2 receptors localized in the striatum [2]. Recent results showing the existence of heteromeric adenosine (A_{2A})/D_2 a receptor complexes seem to open up new perspectives on the search for novel therapies of drug addiction [3].

Aim

In the present study, we have investigated the effects of A_{2A} receptor ligands on cocaine- or food-seeking behaviors in rats.

Material and methods

We used an intravenous cocaine self-administration model and an extinction/relapse procedure. For comparison food-seeking procedure was also evaluated. Male Wistar rats were trained to self-administer cocaine (0.5 mg/kg/infusion) or food (sweetened milk, 0.1 ml/portion) under a fixed ratio (FR) 1 schedule of reinforcement in operant chambers equipped with levers; drug or food reward were linked with conditioned cue stimulus (tone + light). After stabilized

active-lever presses, forced extinction procedures (cocaine delivery was replaced by saline infusions) were instituted on following 10 days. Later on, reinstatement was evoked by the cocaine priming dose (10 mg/kg, ip) or the conditional stimulus in rats with previous cocaine self-administration, and by food exposition or the conditional stimulus in animals with a history of food self-administration. Before cocaine or food reinstatement of seeking behavior, the selective A_{2A} receptor agonist (CGS 21680) or the antagonists (KW 6002 and SCH 58261) were administered. Statistical analysis was carried out using one- or two-way ANOVAs, followed by Dunnett's or Newman-Keuls, tests.

Results

We found that the A_{2A} receptor agonist CGS 21680 (0.2-0.4 mg/kg, ip) significantly and in a dose-dependent manner attenuated the reinstatement of active lever presses induced by cocaine (10 mg/kg, ip), the drug-associated conditioned stimulus or food-associated conditioned stimulus. The A_{2A} receptor antagonists KW 6002 (0.25 or 0.5 mg/kg) or SCH 58261 (2 mg/kg) given alone induced reinstatement of cocaine seeking behavior, while the highest doses of KW 6002 (0.5 mg/kg) or SCH 58261 (4 mg/kg) also evoked food-seeking behavior. In combination with the subthreshold dose of cocaine (2.5 mg/kg) or with the conditioned cue, KW 6002 (0.0625 mg/kg), but not SCH 58261 (1 mg/kg), reinstated cocaine seeking behavior while none of the A_{2A} receptor antagonists affected the cue-induced food seeking behavior.

Conclusion

Our results indicate the constitutive role for A_{2A} receptors to control cocaine and food seeking behaviors in rats. Pharmacological stimulation A_{2A} receptors plays a inhibitory control over drug and food seeking behavior. As such, A_{2A} receptor agonist may represent a novel target for the prevention of relapse to cocaine and food.

Acknowledgements

This research was supported by the grant no. 2011/03/N/NZ7/06294 (Krakow, Poland) and the statutory funds of Institute of Pharmacology (Krakow, Poland). We declare no conflict of interest.

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MODELING CO-EXISTENCE OF DEPRESSION AND COCAINE ADDICTION IN RATS: THE EFFECTS OF ESCITALOPRAM ON COCAINE REWARD, EXTINCTION AND SEEKING BEHAVIOR IN BULBECTOMIZED RATS

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Introduction

Depression is a serious problem today. According to the World Health Organization, about 15 percent of the population is estimated to be affected by depression one or more times during their lifetime. Several clinical reports indicate a high comorbidity between depression and drug (e.g. cocaine) abuse/addiction. One of the leading hypotheses explaining the correlation between depression and addiction is called 'self-medication'. Depressed patients may use addictive substances to feel better and to provide a temporary escape from anhedonia and/or feelings of sadness or unhappiness.

Aim

The present study investigated the effect of the antidepressant drug escitalopram in rats underwent olfactory bulbectomy (an animal model of depression) and cocaine self-administration procedures. Additionally, we verified the hypothesis that chronic escitalopram treatment during extinction training might alter cocaine seeking behaviors in both phenotypes.

Material and methods

Male Wistar rats that underwent intravenous catheter implantation and the olfactory bulbs removal (OBX) were trained to self-administer cocaine (0.5 mg/kg/inf.; FR5) paired with the conditional stimuli (tone+light). Other groups on animals of animals underwent cocaine self-administration followed by extinction procedures lasting 10 days during which the animals received saline instead of cocaine; there was no presentation of the conditioned stimuli. Later on, reinstatement was induced by injection of cocaine (10 mg/kg, ip) or contextual stimuli previously paired with cocaine self-administration. SHAM controls were treated similarly except that the olfactory bulbs were not removed.

Escitalopram (Lundbeck, Denmark, ip) was given to rats (i) during the maintenance of cocaine self-administration, (ii) during 10-day extinction training, and (iii) before induction of cocaine-seeking behaviors.

Results

We found that acute administration of escitalopram (2.5-20 mg/kg) in OBX and SHAM group did not alter rewarding properties of cocaine. On the other hand, escitalopram in a dose

range of 1.25-10 mg/kg given before the cue or in a dose-range of 5-15 mg/kg attenuated reinstatement of cocaine seeking-behavior in both phenotypes.

The first injection of escitalopram (15 mg/kg) during extinction training decreased active lever pressing only in OBX animals, however, the drug chronic administration did not change the active lever pressing in SHAM and OBX rats from 2nd till 10th extinction day. In those rats administration of cocaine (10 mg/kg) as well as re-exposition to the cue similarly enhanced reinstatement of seeking-behavior as compared to the repeated vehicle injections during extinction training to SHAM and OBX rats.

Conclusion

Escitalopram given acutely attenuates cocaine seeking, however, its lack of efficacy with repeated treatment during extinction training on the following cocaine seeking both studied phenotypes suggests that it may be ineffective in patients with co-morbid depression and cocaine addiction

This research was supported by the Lundbeck, the Operating Program of Innovative Economy 2007-2013, grant No. POIG.01.01.02-12-004/09 (Poland) and the statutory funds of the Institute of Pharmacology Polish Academy of Sciences, Krakow

DIABETES AND DIETARY SUPPLEMENTS

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Introduction:

I would like to make a research on the very common and popular group of our society as diabetes are and find out what effects can have dietary supplements on diabetes blood suger level and what is corealation between levels of some microelements and witams and secretion of insulin.

Methods:

Ongoing studies on sufficiency and deficiency levels of some minerals, vitamins and other nutrional components such as herbs and their influence on diabetes.

Results:

The results of international studies with large samples on both animals and humans have proved links between proper level of chromium,magnesium,vanadium, Ala, Gla, biotin, carnitine,coenzym Q10, pottasium,Vitamin B6, B12, Taurine, Vitamin C, D, E and zincum and normal sugar blood level

Conclusion:

Results of my study only suggest that proper dietary supplementation can be beneficial for diabetes.

On the other hand we should remember that some dietary supplements can be a dangerous mix. Why?

Some supplements may interact with medications or other supplements increasing or decreasing their effect or can cause side effects.

What should we do? In my opinion the best choice is to keep on the moderation!

APPLICATION OF COMPUTATIONAL METHODS FOR THE DESIGN OF BACE-1 INHIBITORS

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It has been estimated that over 24 million people suffer from dementia. Alzheimer's disease (AD) is the most common cause of dementia. [1] Despite many years of research there is no cure for AD. β-Secretase (BACE-1) is an important target in the search for the Alzheimer's treatment.[2] In the search of new non-peptidic inhibitors we used computer simulation methods. They allow to find innovative structures with the highest probability of achieving desired biological activity. In our work we developed in sillico methodology for the design of new BACE-1 ligands. The method has been validated in a multi-step process of redocking, cross-docking and tests with the ligands from training and test groups. In the final stage of this work, the structure of exemplary BACE-1 inhibitors was designed using that method.

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ACCUMULATION OF ANTIOXIDANT AND ANTICANCER ACTIVITY COMPOUNDS IN THE MYCELIAL CULTURES OF *PIPTOPORUS BETULINUS* (BULL.) P. KARST

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Mycelial culture of Basidiomycota species is a convenient alternative for efficient production of biomass from medicinal mushrooms and their active metabolites. Potential advantages of *in vitro* culture include a higher production of mycelial biomass in a compact space and over a shorter time period.

The aim of the study was qualitative and quantitative analysis of the extracts obtained from mycelial cultures of *Piptoporus betulinus* (Bull) P. Karst. (birch bracket). Mycelial culture was conducted on the Linsmaier-Skoog medium (L-S) [1] in order to determine the presence of biologically active substances: sterols, fatty acids and carotenoids. For this purpose high performance reverse phase liquid chromatography (RP-HPLC), gas chromatography (GC) and spectrophotometric methods were used.

In the extracts four from seven designated sterols: ergosterol, hexestrol, ergosterol peroxide and cholecalciferol were found. Quantitatively, ergosterol was the dominant compound among designated substances. Eleven fatty acids were estimated, including four unsaturated fatty acids, e.g. oleic and α-linolenic acid. Analysis of carotenoids composition showed carotene and lycopene content of 0.06 μg/g d.w. and 0.02 μg/g d.w. respectively.

This results show that the mycelial cultures are able to accumulate the metabolites with biological activity. Mushrooms are the major, natural source of ergosterol and vitamin D_2-substances with anticancer activity. Detected oleic acid, α-linolenic acid as well as carotenoids have antioxidant activity. Antioxidants are used to prevent the cancer and ischemic heart disease (IHD), which is frequent civilization disease. The study indicates, that the established in mycelia culture of *Piptoporus betulinus* may be a potential source of the tested groups of compounds and could be useful object for future chemical analysis.

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TRITERPENE SAPONOSIDES-NEW PERSPECTIVE IN CANCER THERAPY-*IN VITRO* STUDIES

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English Saponins are a highly diverse group of chemical compounds found in higher plants. They posess many interesting biological and medical purpose including antimicrobial,anifungial, adjuwant as well as anticancer. These different effects are a result of differences in target membrane architecture, the composition of the sugar side chain and the nature of the aglycone. Saponins can act extracellulary on tumor cells or influence intracellular pathways. Plasma membrane permabilization and the inhibition of drug efflux by direct inhibition of membrane proteins are typical extracellular effects while intracellular effect such as antiproliferation effect, inhibition of invasiveness, cell cycle arrest, induction of apoptosis.Saponins may be use to hamper the mobility of tumor cells in combination with other saponins or chemoterapeutics drugs. Traditional cancer chemotherapy frequently uses cytotoxic agents to destroy cancer cells at the expense of normal host tissue. Very important is search new chemotherapeutics agents that are effective will be incorporated with an outbreak of disease with minimal effect on healthy tissue. The quest for new drugs, new therapeutics strategies are needed. In this study we analyzed three new saponosides with different chemical structure and compared their impact on the cancer and normal cells (Du-145 human prostate cancer cell line with medium metastasis potential, PC3 human prostate cancer cell line with high metastasis potential, PNT2 normal prostate cell line). Analysis of cells vital function include proliferation, morphology,invasiveness, mechanism of cell death, migration and cytoskeleton organization and cell elasticity. Preliminary result of our study indicate that these saponosides have a high selectivity in their effect on the examined cells and what is more the effect of studied saponosides is more pronounced on cancer cells than effect of mitoxantrone-commonly used in cancer therapy drug, in contrast to normal cells.

HEALTH CARE SERVICES IN DIFFERENT COUNTRIES-ADVANTAGES AND SHORTCOMINGS-CONSIDERING THE SITUATION OF CLINICAL NUTRITION IN POLAND

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Clinical nutrition

Clinical nutrition is a response to the need for innovative therapies of chronic diseases andpatients in severe clinical condition. Clinical Nutrition is any support of normal nutrition of the patient in a hospital, hospice, long-term care facility or in the patient's home. [1]

History of clinical nutrition

In 1967, Professor Dudrick was a pioneer who successfully conducted a total parenteral nutrition of a one-month girl with short bowel syndrome. And this was a real breakthrough. [2]

In 1975- the Society of Parenteral and Enteral Nutrition was established in the USA (ASPEN).

On the other hand the European Society of Parenteral and Enteral Nutrition (ESPEN) has operated since 1979.

The 27th of June1986, dates back as the founding meeting of the Section of Parenteral and Enteral Nutrition Polish Medical Society.

In 1998, the section was transformed into a Polish Society for Parenteral and Enteral Nutrition

(POLSPEN). The POLSPEN was created by Professor Marek Pertkiewicz.

Since 2012 POLSPEN is called as a Polish Society of Parenteral Nutrition, Enteral and Metabolism.

Since 2010, in Poland there have been two companies bringing together doctors, nurses, pharmacists, nutritionists, and other people involved in clinical nutrition.

They are as follow: Polish Society for Clinical Nutrition and the Polish Society of Clinical Nutrition for Children

Function of clinical nutrition for whom is it intended?

Clinical nutrition can be called as any nutrition-support and it is performed using all pharmaceutical preparations containing nutrients such as energy, protein, glucose, vitamins, micronutrients and components influencing the patient's immune system such as glutamine and omega-3 fatty acids. [3] The primary function of CN is to compensate the demand for nutritional elements in patients who can not eat by themselves (eg, the condition after the large surgical operations , cancer, critical illness, patients with short bowel syndrome or the elderly, etc.) or for those whose nutritional needs increased significantly due to underlying disease (eg, burns, sepsis, large trauma, renal or hepatic impairment, newborns with low birth weight) [4, 5, 6, 7] The additional function of CN:

»Increase the proportion of patients able to survive severe and critical condition
»Shortening the period of hospitalization
»Improving the outcomes of general and local treatment
»Stimulation of the immune system
»Reduction of infectious complications
»Reduce the total cost of treatment [3]

Different types of clinical nutrition posibble ways of administration

Clinical nutrition can be accomplished in several ways:

Oral CN known as (sip-feeding): extra supply of nutritients, specially formulated for individual patients as so. "Diet industry". These formulations are used with the normal nutrition by the gastrointestinal tract. available mostly in the form of liquid (drinks, desserts, etc.), or powder (soups, etc.) [9].

Enteral CN (intragastric or enteral): supply through a special tube. As liquid mixtures formulated for the individual needs as so. "Diet industry". [9, 10] Parenteral CN: it supplies patient with essential nutrients by intravenous transfusion of sterile.

Clinical nutrition regulations in Poland

The most important act is Pharmaceutical Law from 2001. [11] This Law regulates the legal way to prepare the mixture for parenteral and enteral nutrition. The parenteral nutrition department must be an integral part of the hospital pharmacy moreover it must meet many specific quality requirements.

Additionally it discounts the possibilities of preparation parenteral mixtures or even modification of the RTU bags by insufficiently qualified medical personnel. In accordance with the law only a Master or Technician of pharmacy is allowed to perform such actions.

The second one is Regulation of the Minister of Health from 2011. [12]

Amending the regulation on benefits guaranteed during hospitalization. And it determines that since 01.01. 2012, in every hospital in Poland there is an OBLIGATION to assess a nutritional status of each hospitalized patient (except hospital emergency departments and wards of one day hospitalization). Unfortunately the huge costs of setting up and functioning of workshop prevent many hospitals in Poland from conducting complete clinical nutrition. Considering that economic fact in Poland the total number of parenteral nutrition department is estimated at 45 out of 584 hospital pharmacies in 16 regions. Data from November 2012. mixtures. Transfusion of this kind of diet can be done both through a peripheral or central vein. Parenteral Clinical Nutrition can be used as Total Parenteral Nutrition – TPN as well as Partial Parenteral Nutrition – PPN. [8]

Table 1 Total numer of enteral or parenteral nutrition department in Poland. Data from November 2012 [13]

Region	The numer of hospital pharmacies	The number of enteral/parenteral nutrition departments
Podlaskie	22	3
Kujawsko- pomorskie	24	8
Pomorskie	26	6
Lubuskie	21	0
Śląskie	76	0
Świętokrzyskie	22	0
Małopolskie	48	7
Lubelskie	33	2
Łódzkie	37	2
Warmińsko-mazurskie	26	2
Opolskie	16	0
Wielkopolskie	68	3
Podkarpackie	26	0
Zachodnio- pomorskie	24	0
Dolnośląskie	44	2
Mazowieckie	71	10
TOTAL	**584**	**45**

Parenteral nutrition department [11, 14, 15, 16, 17, 18, 19]

Parenteral Nutrition Department is the place of making mixtures for parenteral nutrition, it corresponds to the highest standards of purity of air, surface and personel, which are based on the principles of:

– GMP (Good Manufacturing Practice)

– Polish Pharmaceutical Law

– Pharmaceutical Standards For Preparation of Parenteral Nutrition Mixture

The preparation of parenteral nutrition must take place in an anvironment of air purity classified as "class A".

Such high standards of sterility can be achieve due to the application of the following technology:

» High – Efficiency Particulate Air Filter called "Absolute filters". HEPA filters remove 99,9997% of particles having a diameter of 0,3 microns and larger

» The air in the clean room is maintained at constant presure

» Constant, unidirectional laminar flow of sterile air which is inside the aseptic box intended for compounding mixtures

» Monitoring validation of aseptic preparation process: connected with microbiological parameter of: mixture, workplace (surface ang air) and personel

» Constant control of temperature, humidity and pressure inside the "clean room"

» Online monitoring devices ensure about temperature of mixture and intermediates in refrigerator

Each mixture must be " tailored ": It means that each mixture is individually designed for a particular patient and signed by his name, surname and Social Security number. The composition and volume of each mixture are selected for the current metabolic condition and patient's immune capability. The composition may be modified daily depending on the current needs of the patient with respect to any parameter. It can be possible thanks to support the specialist clinical software and knowledge of professional staff. [8] [20]

Stability and storage of mixture

All mixtures are shoul be designed and compound in the way which lives up to the highest standards both in terms of physico-chemical stability as well as microbiological one.

As a result, the mixture can be stored for 7 days under refrigeration (2 – 8 ° C) or 24 hours at roomtemperature (except a mixture of clinical nutrition for for children and infants).

Transportation of mixture

In terms of logistics and transportation of parenteral nutrition mixtures some validated systems and solutions should be use in order to provide ensure "cold supply chain" as a common model of transport, if it comes to materials with specific temperature and humidity requirements. This gurantees the maintenance of appropriate transport parameters and distribution in accordance with Good Distribution Practice- GDP.

In conclusion Total Parenteral Nutrition is important toward improvement the efficiency of hospital health care. Thanks to implementation Total Parenteral Nutrition of we are able to reduce cost and time of hospitalization.

Individual preparing of parenteral mixture involves high standards. Critical element of procedure is safety of compounding and delivering mixture according to GMP and GDP.

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EFFECT OF CO-TREATMENT WITH RISPERIDONE AND MIRTAZAPINE ON MK-801-INDUCED DEFICITS IN THE SOCIAL INTERACTION TESTS IN RATS

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Schizophrenia is a chronic progressive disease with a life-time prevalence of approximately 1%. The affinity for 5-HT receptors is one of the main differences between second-generation antipsychotics and conventional antipsychotic drugs. The second-generation antipsychotic agent (e.g., risperidone), which target the serotonin (5-HT) signaling pathway in addition to the dopamine system, alleviate not only the positive symptoms of schizophrenia but also the negative ones (e.g., flat affect, poverty of speech); furthermore, they bring considerable benefits compared to the first-generation drugs. Risperidone, whose low doses block mainly serotonin 5-HT2A receptors and higher ones dopamine D2 ones, is known to produce minimal extrapyramidal side-effects compared to classic antipsychotics. It has also been ascertained that mirtazapine, a novel antidepressant, enhances noradrenergic and 5-HT1A-mediated serotonergic neurotransmission by antagonizing central α2-auto- and hetero-adrenoreceptors. Moreover, it blocks 5-HT2 and 5-HT3 receptors and displays very low affinity for dopaminergic receptors and high affinity for histamine H1 ones. Several clinical reports have suggested that the mirtazapine-induced augmentation of risperidone activity may effectively improve the treatment of negative and some cognitive symptoms of schizophrenia.

The aim of the present study was to evaluate the effect of mirtazapine and risperidone, given separately or jointly, on the MK-801-induced deficits in a social interaction test in rats.

Matherials and Methods:

The experiments were conduced in the open field arena (length x width x height 57 x 67 x 30 cm) made of black Plexiglas, and divided into six symmetrical sectors. The arena was dimly illuminated with an indirect light of 18 Lux. The rats were selected from separate housing cages to make a pair for the study. The body weights of the paired rats were matched within 20 g of variance. Mirtazapine (2.5 or 5 mg/kg) and risperidone (0.01 mg/kg) were given 60 and 30 min before the test, respectively. The social interaction of rats was evaluated for 10 min starting 4 h after MK-801 (0.1 mg/kg) administration. The social interaction between the rats was determined as the number of social episodes between rats, and the total time spent participating in social behavior such as sniffing and genital investigation. All the experiments were conduced during the light phase and were carried out according to the procedures approved by the Animal Care and Use Committee at the Institute of Pharmacology, Polish Academy of Sciences in Kraków.

Results:

The obtained results showed that in the social interaction test, MK-801induced deficits in either parameters studied, the number of episodes and time of interactions. Risperidone at a higher dose (0.1 mg/kg) reversed that effect. Co-treatment with an ineffective dose of risperidone (0.01 mg/kg) and mirtazapine (2.5 or 5 mg/kg) reversed the effect of MK-801, while locomotor activity of those rats was not altered in any of the treatment groups.

Conclusion:

The obtained results suggest that mirtazapine may enhance the antipsychotic-like effect of risperidone in the animal test modeling some negative symptoms of schizophrenia. Further studies are necessary to elucidate its mechanism of action.

Acknowledgments: This study was financially supported by grant Preludium No 2013/09/N/NZ7/02143 from National Science Centre

VI. HISTORY OF MEDICINE AND PHARMACY

Presidents of the section: Prof. dr. Karoly KAPRONCZAY, Dr. hab. Judit FORRAI, and Prof. UJ dr hab. Zbigniew BELA

IS HYGIEIA THE RIGHT PATRONESS OF PHARMACY?

Zbigniew BELA

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The aim of the paper is to question the rightness of usage Hygeia as a symbol of pharmacy. The challenge is made on the basis of analysis of the functioning the goddess both in Greek antiquity and in modern times, in particular in the eighteenth and nineteenth centuries.

ASIAN HOLOCAUST: HUMAN EXPERIMENTS IN MANCHURIA BETWEEN 1932 AND 1945

Csaba Bence FARKAS

Ázsiai Holokauszt: Emberkísérletek Mandzsúriában 1932 és 1945 között.

Introduction and Motivation

It is not a well-known fact that a horrible genocide took place in Manchuria, Northeast Asia from 1932 to 1945. The perpetrators were Japanese special military units belonging to the Kwantung Army; the victims of the biological, chemical and other military experiments were Chinese, Russian, Korean, American and British civilians and prisoners of war.

The main goal of the presentation is to show the aspects of the Asian Holocaust, and to find the answer why the world do know almost nothing about it.

Methods:

The main sources of information about the topic are declassified original files and different works of historians; these writings are based on testimonies (from both the perpetrators and witnesses, survivors), physical evidences and photographs. After reading the documents

accessible to me, I sorted out the most important and valuable facts and systematized them. In order to maintain impartiality, I used certified or verifiable sources only.

Results:

The research showed that the Asian Holocaust existed, despite the decades-long denial by Japan and the United States. At least 3,000 people died in laboratory experiments and another 580,000 people lost their lives during „field tests" executed by special units, such as Unit 731. The USA's Cold War politics enabled the Japanese war criminals involved in biological or chemical warfare to avoid being convicted: in exchange for their research data, the United States granted them amnesty.

Conclusions:

It is one of the most important tasks of the future generations to not let genocides and human experiments happen again, but if the world is not informed properly and well enough, these terrible atrocities could occur again. Because of this, the Asian Holocaust is a historical event we must know about.

PATIENTS' LEGAL STATUS IN THE 18TH CENTURY ALONG THE PHYSICIANS' LEGAL OBLIGATIONS IN HUNGARY

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Background

In an exactly documented and available legislation, the state's responsibility and substantial contribution in and to the management of the health affairs was emerging first in the 18th century.

Aims

Analysing the legal status of the 18th century patients by a short historical review of the essential prior legal and ethical environment based on the first comprehensive Hungarian health care legislation Generale Normativum in Re Sanitatis (GNRS) and then to compare these historical rules to the actual patient rights of Hungary. Method: Our strategy was the critical evaluation of the GNRS context by using the law enforcement regulations and specialities of the socio-economic environment in the 18th century.

Results

Having evaluated the social norms of health care prior to the 19th century, especially the patient related service liabilities of the GNRS, we confirmed that one of the most important contributions of gaining and keeping patients' cooperation for successful treatment was respecting patients morally and a legally alike in all historic ages.

Conclusions

Patient rights of the Hungarian Health Act (Act CLIV of 1997 on Health) in force has its direct and substantial historical founds in the 18th century. Thus, Hungary's legislation followed the modern human rights principles already in the last 250 years.

HEALTH CARE REGULATIONS OF THE 18-19TH CENTURY MIDWIFERY RELATED TO THE MODERN PATIENTS' RIGHT LEGISLATION

Anna VÁCZI, Helga Judit FEITH, Edina GRADVOHL, Péter BALÁZS

Semmelweis University Faculty of Health Sciences, Department of Social Sciences

Background

There was the Generale Normativum in Re Sanitatis (GNRS) the first modern legislation of the Hungarian state administration in the 18th century. Among others, it regulated also the midwives' legal obligations. In the next century the first Hungarian Act on Public Health (Act XIV of 1876 on Public Health) was Europe's second legal norm passed in terms of the latest development of medical sciences.

Aims

Analysing the legal norms mentioned above related to the training and the services provided in the midwifery, and comparing these rules with the actual patients' rights of Hungary (Act CLIV of 1997 on Health).

Method

Critical analysis of the obstetrical rules of GNRS and the Act XIV of 1876 on Public Health and comparing them with the prevalent patients' rights situation.

Results

In the 18-19th centuries the patients' right were represented by the health providers' unilateral obligations as mandatory services or prohibition of illegal abortion.

Conclusions

Based on the professional rules the state administration appreciated especially the obstetrical services. For socio-demographic considerations, midwives were the most important paramedics in the 18-19th centuries. It can be concluded that the obligations of midwives protected in turn also the patients' rights in the contemporary Hungary.

CHAPTERS ABOUT THE CARDIAC IMPLANTABLE ELECTRONIC DEVICES: OVERVIEW OF THEIR HISTORY AND COMPLICATIONS.

Gergő SZABÓ

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Group of Medical Histology

Introduction

The cardiovascular diseases and diseases occured by them are top of the rate of morbidity and mortality in the advanced countries as in Hungary. After the ischaemic heart disease and hypertonia the conduction disorders are significant. In treatment of conduction disorders the cardiac implantable electronic devices (CIED) are important. The CIED includes pacemakers, cardiac resynchronisation therapy (CRT) and implantable cardioverter-defibrillator (ICD).

Guideline

The targets of the presentation are mainly the hungarian relation of short historical review of the progress of the technology and devices and pioneers, mention the the indication and those broadening, and a review of complications by hungarian and international specialized literature. The new-waves of the development are included.

Methods

By medical historical theme made specialized literature research.

Results

Since 1958 the first pacemaker was implanted, more and more CIEDs are each year. The spectrum of indications is broadening, the technology of these devices is progressing by leaps and bounds. By the raising number of implantation we know much better the complications.

VII. ORTHOPEDIC DISEASES OF CHILDHOOD, PREVENTION, REHABILITATION AND YUMEIHO® MASSAGE THERAPY IN PREVENTION AND TREATMENT – BOARD CERTIFICATION FOR DIFFERENT GRADES

LUMBAR DISCECTOMY AND MICRODISCECTOMY – A „GOLD STANDARD" IN SPINE SURGERY?

Paweł RADŁO, Andrzej SMĘTKOWSKI, Maciej TĘSIOROWSKI, Barbara JASIEWICZ, Tomasz POTACZEK

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Introduction. The first paper concerning discectomy was Publisher in 1934 by Mixter and Barr. From this time, there is a dispute about evidences of effectiveness of the discectomy in the treatment of lumbar and thoracolumbar disc herniation.

Aim of study. The objective of this systematic review was to assess the effectiveness of lumbar discectomy.

Methods. We analyzed papers available in the PubMed and Cochrane Library, concerning discectomy and microdiscectomy. All papers included in this study were either a metaanalysis of randomized trials and they met the criteria of Cochrane Collaboration and EBM Working Group.

Results. There are some evidences of good and very good results (from 70 to over 90% good and very good results) for discectomy performed in the case of increasing neurologic deficits, cauda equina syndrome and persisting sciatica, despite primary conservative treatment.

Conclusions. Discectomy, microdiscectomy, microscopic and endoscopic discectomy are useful and effective surgical techniques in the treatment of lumbar disc herniation. Above mentioned techniques reduce pain, decrease neurological deficits and increase patients' satisfaction in comparative extent (lack of statistically significant differences).

EFIKO DE PARTE APLIKATA TRADICIA Yumeiho® TERAPIO AL LA STERILECO – 92 BEBOJ NASKIĜIS DUM 15 JAROJ
A RÉSZBEN ALKALMAZOTT TRADICIONÁLIS Yumeiho® TERÁPIA HATÁSA A MEDDŐSÉGRE/92 BABA 15 ÉV ALATT

Katarina FARAGÓ

Paralele de la evoluo de la scienco oni pluperfektigis la instrumentojn, ilojn de la aplikataj esploroj, tiuj estas plie videblaj en „randomigitaj" (hazarde elektitaj) kontrol-ekzamenoj.

Ŝajnas al mi, ke la aplikata kuracado surbaze de la pruvo havas kapablon haltigi la progresan defalon de la klinikaj plenumaĵoj /rezultoj/ kaj bedaŭrinde tion la daŭra staĝo de la kuracistoj ne povas haltigi.

Medicina tereno ne estas nur SCIENCO sed estas ankaŭ memkonscia kapablo. Tial eblas, ke dum la kuracado havas rolojn ankaŭ mem la emocioj, oni devas rimarki ankaŭ tiujn simptomojn ekz: la empatio, kunsento, kompreno de la sensoj ktp.

La alternativa medicino estas parto de la natura kuracado, kiu estas uzata jam ekde la praepoko. Ĉi tiuj kuracaj metodoj estas ĉiutage jam denove malkovritaj, kiu okazigis ankaŭ kontraŭ-starantajn, diversajn opiniojn.

Multaj scienculoj, fakuloj kaj civitanoj ne kredas en ties efiko, eĉ oni pensas pri tio, ke ĝi estas iluziismo aŭ laŭ pli seriozaj kontraŭstarantaj opinioj: ĝi estas ĉarlatana metodo, kiun la modernaj pensmanierhavantaj homoj ne toleras.

Yumeiho® terapio je unua minuto povas montri kontrastan vidpunkton de la neracio. Tiel aspektas, ke havas pli grandan rolon la ne-scienca proksimumigo.

Tiu ĉi metodo ekzistas el 3+ 1 interrilataj partetoj, nome:

- Masaĝo
- Ĝustigado
- Akupresuro
- kaj aldonante ankoraŭ gimnastikon.

La aŭtoro estas Majstro Saionji Masayuki (Tokio), kiu jam ne vivas, sed liajn sciojn, ideojn, esplorojn en la mondo oni jam konas.

Mia praktiko kaj esploro temas pri mem Yumeiho® – kiel prevento, – proksimiĝante el la vidpunkto de la Yumeiho ® al la kuracmetodo surbaze de la pruvo.

Bazo de tiu terapio/teorio estas la reĝustigado de la ekvilibro al la mekanika ekvilibro de la korpo.

La delokiĝo de la koksostoj, vertebraro, oblikviĝo pro streĉo de la muskoloj – povas kaŭzi misfunkciojn en la cirkulado de la sango, – limfato kaj energia parto. Tiuj modifiĝoj influas la funkciadon de internaj organoj (tra Head-zonoj).

La akupresuro baziĝas sur samaj fundamentoj, nur oni faras stimuladon per fingroj, ne per nadloj.

Konkludo:

Yumeiho® tiel kiel aliaj alternativaj medicinaj terapioj – kiuj havas akcepton flanke de la oficiala tradicia kuracado – devas esti ankoraŭ multe esplorata en estonteco. Estus bone, se tiuj esploroj okazus surbaze de la pruvo, sekvus ties principojn kaj la pozitivaj sukcesoj donus ekzemplojn, dokumentojn ankaŭ por la oficiala kuracado.

Tial estus bezonata tiu ĉi esploro, ĉar laŭ opinioj de unuopaj fakuloj la oficiale akceptitaj kuracmetodoj estas en 80%-j, ties efikoj laŭ aliuloj nur en 20%-j estas.

Dum mia 15-jara aktiveco pruvitaj, aplikataj movoj, kiuj enhavis nur partetojn de la tradicia Yumeiho®- Terapio, donis tiujn rezultojn, ke jam naskiĝis la 92-a bebo, inter ili estas 12 beboj, kies ĉeloj estis ginekologie per helpo de operacio "enplantigitaj"; – inter la naskiĝintaj beboj estas 4 ĝemeloj kaj 8 solaj beboj…

Al la aplikado de tiu "terapieto" mi certe bezonis ekkoni la laboratoriajn rezultojn de la estontaj gravedulinoj, ĉefe la funkciadon de tiroidoj ! Ĉu ĉeestas aŭ hipotiroidismo aŭ hipertiroidismo ?

Kunlaborante kun ginekologoj, endokrinologoj, esploristoj, ni esperas ke tiu nombro de la beboj altiĝos

Sur la bildoj de prezentado ĉiuj povas vidi la rezultojn.

28.06.2014. por la 19-.a IMEK

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3D PRINTING IN ORTHOPAEDICS

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Nowadays, many orthopedic procedures are connected with use of implants. In case of complex bone and joint deformities, operations seem to be challenging. The development of operative techniques as well as implants allows performing reconstructive surgeries in more and more complex cases. Pre-operative planning is crucial, and in connection with proper choice of implants and sufficient operative technique enables achieving good result. For preoperative planning we use classic x-rays and other imaging techniques – computed tomography and magnetic resonance, we apply suitable measure sets for x-rays, we use special computer programs. Intraoperatively we take advantage of sets of surgical tools, fluoroscopy, computed navigation systems. Despite all these facilitations, surgeries in complex joint and bone deformities, including congenital defects, post-inflammatory and post-traumatic changes are challenging and are burdened with significant risk of bad end result. Technology of 3D printing may help in these cases. Current printers enable for multimaterial 3D printing, that broadens the possibilities of their use. Powder materials (cheapest) are used for printing bones in 1:1 scale to exploit them for choosing an optimal implant configuration just before surgery, and analysis specific operation steps that significantly shortens duration of surgery. Composite materials may be used for preparation trial implants and gauges, with possibility of sterilization and application during surgery. It enables more precise and quicker operation.

Use of metals for 3D printing allows creation of special, unique implants, for an individual patient when standard implants cannot fit.

The latest technology is combining 3D printing and live tissue cultures to construct bio-implants of a preplanned shape, for more natural, biological reconstruction of bone and chondral defects.

FIT-TEST: INTERDISCIPLINARY R&D PROJECT FOR A HEALTHIER GENERATION

Katalin HAVASI, Tamás GAIZER, Stefánia BORDA, Márta KATONA

FIT-TEST: Interdiszciplináris K+F projekt egy egészségesebb nemzedékért
FIT-TEST: Interdisciplinary R&D project for a healthier generation

Introduction:

Our purpose was to develop an easy-to-implement health and fitness screening method called FIT-TEST that can provide information to the schoolchildren about their physical fitness, development, growth, health status and advices for healthy lifestyle. We also aimed to recognise the covered or incipient illnesses of pupils and give them suitable medical care.

Methods:

With the new approach we investigated 6-19 year old students at their natural circumstances, by their natural „stress test" in PE classes. We investigated the whole school-age population of a medium-sized Hungarian city, Hódmezővásárhely. About 30 000 measurements were made regarding blood pressure (BP) and heart rate (HR) before and after long distance running (after 1, 5 and 10 minutes). We also measured the speed of running and the children's weight, height and circumferences. We also monitored oxygen saturation of blood and in some cases the peak flow of the exhaled air. Our methods are based strictly on the evidences.

Having measured the whole population, data are analysed in details by IT and statistical methods and the results give us personalised information about the growth, physical and health status of every child, as well as all the population.

Results, population based:

We measured about 5-10% higher resting blood pressure than the relevant national study

The recommended age-specific Training Heart Rate was reached by 83%, (11% had lower and 6% higher, for them the load was excessive).

Measuring the HR and BP recovery after a 10 minute rest, we found a completely different tendency. Only 4.5% of children's **HR** decreased to the initial value or below (it was an overload for the others), while 83% of the student's **BP** decreased to the initial level or below. It means that exercise has a good short term effect on the blood pressure regulation, even if it is too large.

Children with obesity have 1-4 kg extra weight compared to the national values of the same gender, age and percentiles, but less than the international values.

During the stress test BP and HR of those obese showed higher initial level and lower elevation- than thin or normal weight children. The recovery of BP decreased more, but HR less than for the others.

Although the HR, BP and speed of running depend on the age, weight, and height significantly, the individual differences are considerably larger than these factors could explain.

Individual results

Every pupil gets their individual results with medical and lifestyle advices by a web application.

Relevance:

The importance of a new, sensitive screening test like this is to recognise persons with masked hypertension, prehypertension, and those exposed to hypertension. The recognition of rare but potentially life-threatening illnesses at their initial state is also important.

Information about physical, cardiovascular fitness and health status of population assist stakeholders to make decision about future health, sport or education programs.

Conclusion:

Even an excessive physical exertion may have immediate, not only long term, positive effect on BP, for most of the healthy children. This effect is more intensive of children with obesity and higher BP. Because of their different dynamics, the HR recovery investigated together with the BP restitution and the result of running test may give us a unique possibility to screen not only physical fitness, but can also indicate the individual's risk of hypertension. This test may also identify cardiovascular, respiratory or other disease at covered or incipient stage, and may be more sensitive than the regularly used methods.

BP Blood Pressure

HR Heart Rate

INPUT OF ENERGY AND INFORMATION THROUGH EXERCISE

Ibolya Anna NAGY (Human-Medic)

We are aware that everything is made of energy. Our body is composed of massive energy. There are energy channels running around our physical body that are called meridians (12 meridians + 2 special meridians which flow from the hands and legs and run around the entire body). Our organs represent different energies within our body (e.g., kidney: blue-cold-salty, heart: fire-warm, liver: green-revival etc.). Our aura layers are made of subtle and soft energies. Illnesses also derive from the absence of harmonious flow of energy and of the input of proper information.

I am a student of Grandmaster Xu Mingtang.

Grandmaster Xu Mingtang is a professor of the Traditional Chinese Medicine, the leader and the founder of the Kundawell Medicine Research Institute of Beijing, China, as well as the chief advisor to the World Chinese Therapeutic Alliance in Seattle, USA, the Vice-Chairman of the World Academic Society of Medical Qigong, the President of the International Mingtang Foundation, the award winner of the Traditional Chinese Medicine Association for the development of Chinese medicine. I have learned the Qigong exercises from my Master. His name is Csung Jüan Csikung.

Csi=energy, kung= doing it, cultivation of it

The following symptoms may arise in the state of energy shortage: depression, gynaecological problems, exhaustion, dejection, sleepiness (etc....); in these circumstances, the body-soul-spirit “becomes tired” – “falls asleep". In such cases, we use “knocking” in exercises to wake up the sleeping organs; we destroy stagnating energies by lashing, and we feed proper energy and information into the body by rubbing with the help of IMAGE MEDICINE.

For example, renal insufficiency (here I am going to present the fourth exercise of Zhong Yuan Qigong Level 1 preliminary exercise: the dragon whips the sea up)

One can talk about intensified excessive energy state: high blood pressure, fever etc. (here I am going to present purification using a ball, 88 closing. When yin and yang (e.g., heart, spleen and pancreas) problem occurs and energy flow is upset, we use the “prayer of the child to Buddha", level 1, preliminary exercise 1 (I am going to present it). Application of image therapy for organs: proper information is fed into the organs. I am going to talk about and to use it immediately with the help of all of the participants. (Joint exercise). These exercises can be applied for self-healing and thereby our energy system will be rebalanced and the self-healing mechanism of the body gets started. There is no life without movement, because everything always changes. This method is classified among alternative therapies. AMM therapist, International Instructor of Zhong Yuan Qigong Soul Therapist, Parapsychologist

Thank you!

ĈU PSIKA EKVILIBRO HAVAS INFLUON POR TIROGENAJ MALSANOJ?
ĈU EKZISTAS RILATOJ INTER TIROGENAJ MALSANOJ KAJ STERILECO?

Katarina FARAGÓ

La nombro de la tirogenaj malsantipoj duobliĝis laŭ la oficiala statistiko. La graveco de tiuj ĉi malsantipoj estas signifa je la sterileco laŭ la plej freŝaj fakliteraturaj indikoj. La nombroj de la sterilaj virinoj multnombriĝas. La prelego prezentas la bazajn informojn pri tiu malsantipo kaj rilatojn inter tirogenaj malsantipoj kaj sterileco – kun prezentado de la fotoj pri la beboj kiuj naskiĝis pere de helpo Yumeiho® terapio.

Lasttempe la esploristoj trovis rilatojn inter psikaj malsantipoj kaj sterileco kunligite kun tirogenaj malsantipoj. Laŭ miaj spertoj, kiuj dezirus esti gravedaj Ĉiam rakontas ankaŭ pri psikaj problemoj kiuj Ĉeestas ekz. en familia aŭ Ĉiutaga vivo eĈ plurfoje mem la financa stato de la familio Ĉeestas, timo pro la gravedeco, pro malsano de la novnaskito ktp.

Ofte mi konsultadas kun kineziologistino kaj naturkuracistoj kiuj helpas al miaj pacientinoj por trovi la psikan ekvilibron.

s-ino Katarina FARAGÓ
VI-a grada Yumeiho® terapiistino,
kuracmasaĝistino
Hódmezővásárhely, Hungario

VIII. RECENT ADVANCES IN CHEMISTRY AND DENTISTRY

Presidents of the session: Prof. dr hab. Gabriel NOWAK and

Dr hab. Jolanta PYTKO-POLOŃCZYK

NEW ARYLSULFONAMIDE DERIVATIVES OF ARYLOXYETHYL-PIPERIDINES AND PYRROLIDINES AS POTENTIAL SELECTIVE A_1 – ADRENOLYTIC DRUGS IN BENIGN PROSTATIC HYPERPLASIA (BPH)

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Benign prostatic hyperplasia (BPH) is a common enlargement of the prostate gland that may lead to bladder outlet obstruction, lower urinary tract symptoms (LUTS), and impaired quality of life. BPH is present in 50% of men aged over 50 years.

It was reported that the α_{1A} adrenergic receptors subtype is predominant in the prostate, but recent studies have detected the expression of both α_{1A}- and α_{1D}-receptors in human prostate tissue. It was reported that α_{1A}-receptors blockade relieves bladder outlet obstruction, while the blocking the α_{1D}-receptors is believed to alleviate storage symptoms due to detrusor overactivity. α_1-adrenoceptor antagonists are one of the most effective forms of medical treatment to reduce symptoms in most men with lower urinary tract symptoms (LUTS) suggestive of benign prostatic hyperplasia, for example – terazosin, doxazosin, tamsulosin and silodosin. The wide distribution of α_{1B} and α_{1D} receptors in vascular and central nervous system tissues causes common side effects, typical of adrenolytic drugs (e.g., hypotension, fatigue, and dizziness).

Thus, in our research we seek new compounds – selective for α_{1A} adrenergic receptors as potential drugs in BPH. Consequently, 50 new arylsulfonamide derivatives of aryloxyethyl-piperidines and pyrrolidines were synthesized in the Department of Pharmaceutical Chemistry of Jagiellonian University.

All compounds were evaluated for their binding affinity for α_1 - α_2 - adrenoceptors. The highest affinity for the α_1 - adrenoceptors was displayed by compounds PZ-1204 and PZ-1207 (K_i = 19-20 nM). Ten of the all tested compounds were selected to next experiments. Those compounds were selective for the α_{1A} adrenergic receptors, showing an affinity for the α_{1A} receptors that is 5-6 fold higher than its affinity for the α_{1B}- receptors, respectively.

Next ten analogues were evaluated for antihypertensive activities and pressor response by methoxamine. All compounds in doses 2-5 mg/kg did not have a significant influence on blood pressure.

Intravenous methoxamine was given to rats to induce pressor response. All compounds significantly antagonized the pressor response elicited by methoxamine. This effect suggested, that compounds have adrenolytic properties.

The pharmacological results and binding studies showed, these this structures should be tested in the model of benign prostate hyperplasia in rats.

The study was supported by National Science Centre, the project no. 2011/03/B/NZ7/00724

SYNTHESIS AND PHARMACOLOGICAL ACTIVITY NEW SERIES OF 1-(1*H*-INDOL-4-YLOXY)-3-(2-(2-METHOXYPHENOXY)ETHYLAMINO) PROPAN-2-OL ANALOGS

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Since the discovery of propranolol in the 1960s by Sir James Black β-adrenergic receptor antagonists have become important therapeutics for the treatment of cardiovascular disorders such as angina and cardiac arrhythmias but they are also efficient for hypertension, cardiac failure, coronary artery disease, myocardial infarct, glaucoma, migraine and anxiety.

In the group of β-blockers, much attention is being paid to the third-generation drugs with vasodilating activity. Vasodilating ability may ameliorate some of the therapeutic problems associated with traditional β-blockade, such as the adverse effects on metabolic and lipid parameters as well as peripheral circulatory and respiratory disturbances that impaired quality of life.

In the last decade, a new generation of β-blockers with additional α-adrenoceptor blocking activity was introduced to therapy. The α/β-blockers (bucindolol, carvedilol, labetalol) have vasodilating properties via relaxation of arterial smooth muscle, with no reflex tachycardia as a result of α-adrenoceptor blockade.

In the search for structures with potential circulatory activity, we have focused our attention on the carvedilol analogues. These compounds have the characteristic structural fragment of each β_1-adrenergic blocking agent, namely aminopropan-2-ol moiety. In addition, they contain substituted indole moiety instead of carbazole moiety characteristic of carvedilol. The aim of our study was to evaluate cardiovascular activity of new five compounds. Compound A is methyl-, and four of the tested compounds, B–E, are dimethoxy-derivatives of 1-(1H-indol-4-yloxy)-3-(2-(2-methoxyphenoxy)ethylamino)propan-2-ol.

The obtained results confirmed that methyl, and dimethoxy-derivatives of 1-(1H-indol-4-yloxy)-3-(2-(2-methoxyphenoxy)ethylamino)propan-2-ol and their enantiomers possess α_1- and β_1-adrenolytic activity and the antiarrhythmic and hypotensive effect of the tested compounds is related to their adrenolytic properties.

The study was supported by National Science Centre, the project no. 2011/01/D/NZ4/01735.

PLASMA MEMBRANE GABA TRANSPORTERS – A TARGET FOR BIOLOGICALLY ACTIVE DERIVATIVES OF 4-AMINOBUTANAMIDES

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INTRODUCTION

Plasma membrane transporters for 4-aminobutyric acid (GABA) have been extensively investigated on their role in the dysfunction of GABAergic neurotransmission. To date, four different plasma membrane transport proteins (mGAT1-mGAT4) that mediate the uptake of synaptic GABA into neurons and glial cells have been identified and characterized. It was shown that they differ in their localization, affinity for GABA and their pharmacological functions.

In the recent years much attention has been paid to the biological role of mGAT1, as well as other GABA transporter subtypes (GAT). It was suggested that compounds targeting at these transporters might be active against seizures, depression, anxiety or pain, however, to fully explore both the physiological function and their individual structure, further compounds that selectively target and modulate GAT activity are needed [1].

In our search for biologically active compounds we have investigated 4-aminobutanamide derivatives which demonstrate affinity for mGAT1-mGAT4 transporters in a [^{3}H] GABA uptake assay based on stably transfected HEK cells [2]. These compounds have been also evaluated in behavioral studies using mouse models and these experiments confirmed that all four GAT might be a promising target for a therapeutic intervention in the future.

RESULTS

The results obtained in animal models show that anxiolytic-like properties in the four-plate test and in the elevated plus maze test in mice are demonstrated by compounds with the affinity towards mGAT1. This anxiolytic-like activity is even more enhanced by the concomitant influence on mGAT3 and mGAT4.

In the forced swim test the antidepressant-like effect is due to the inhibition of all GAT subtypes, however the inhibition of mGAT2 and to a lesser degree mGAT1 is mainly involved. It was previously demonstrated that mGAT1 might be an important therapeutic target for antidepressant-active drugs [3] and a significant antidepressant-like effect of tiagabine, a selective mGAT1 inhibitor, in chronic and acute models of depression in mice was observed.

The inhibition of mGAT1 is necessary to attenuate pentylenetetrazole-induced seizures, however this effect is significantly enhanced by the concomitant inhibition of mGAT3 and mGAT4.

GAT inhibition has no influence on the abolition of hind limb extension in the maximal electroshock seizure test. In contrast to this, all GAT subtypes seem to be involved in the

regulation of the threshold for electroconvulsions. In particular, compounds with the highest affinity towards mGAT1 and mGAT2 are interesting, as they potently elevate the electroconvulsive threshold in mice.

Pilocarpine-induced seizures which reflect a status epilepticus in humans might be attenuated by mGAT1 inhibitors. The anticonvulsant activity in this model is enhanced when mGAT2 and to a lesser degree mGAT3 and mGAT4 are inhibited. The anticonvulsant efficacy of compounds that inhibit mGAT3 and mGAT4 without influencing mGAT1 is much lower as compared to mGAT1 inhibitors.

The results of the antinociceptive activity of compounds tested in the acute pain model indicate that mGAT1 plays a pivotal role in pain. The antinociceptive activity might be also mediated by the inhibition of mGAT4.

CONCLUSIONS

To conclude, given the encouraging results obtained with numerous 4-aminobutanamide derivatives, our study provides a promising starting point for the search for next series of highly potent, pharmacologically active GAT inhibitors which can be used as not only tools to assess the role of GAT subtypes in diseases of the central nervous system but also as lead structures in medicinal chemistry.

Acknowledgements

This work was financially supported by the grant from the National Science Centre DEC-2012/05/B/NZ7/02705.

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NEW TRICYCLIC THEOPHYLLINE DERIVATIVES WITH ARYL-, ARYLSULPHONAMIDE- AND BICYCLO-PIPERAZINYLALKYL MOIETIES AS POTENTIAL LIGANDS OF MONOAMINE RECEPTORS

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Tricyclic theophylline derivatives, annelated with five, six or seven membered heterocyclic ring at 7, 8-position of theophylline generally demonstrated different profile of its central nervous system activity, in comparison to the reference compound (theophylline). The pharmacological evaluation of a series of arylpiperazinylalkyl derivatives of tricyclic theophylline with an imidazo- or pyrimido- moiety demonstrated their sedative, hypothermizing and anxiolytic/antidepressant activity. The chemical structure of the terminal imidazo- or pyrimido[2,1-f]theophylline moiety influences the receptors binding parameters. Receptor activity of these compounds depends on the type of substituent in additional ring, while saturation of the annelated heterocyclic ring can determined inhibitor activity against PDE. Modifications of the structures were planned with respect to three chemical elements: aryl-, arylsulphonamide- or bicyclo- piperazinyl moiety, the length of methylene units between substituted piperazinyl moiety and triheterocyclic nitrogen system, and presence of imidazole or pyrimide ring in tricyclic theophylline derivatives. New derivatives were evaluated *in vitro* for affinity for the monoamine receptors. The selected compounds were preliminary tested *in vivo* to evaluation of their potential antidepressant, anxiolytic and/or antipsychotic activity, using common screening tests.

Contract sponsor: Jagiellonian University Medical College, Kraków, Poland, research no K/ZDS/004130 ; K/ZDS/004654 and NC/UMO-2011/01/B-NZ4/00695

DENTAL PROBLEMS OF PATIENTS WITH AFFECTIVE BIPOLAR DISORDER

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Bipolar affective disorder (maniac-depressive illness – MDI) is characterized by the occurrence of depression episodes alternating with mania/hypomania episodes which take place right after one another or are separated by periods of remission. It is a chronic disease and even 4% of the population might be affected by one of its forms. Men and women are equally at risk of falling ill with MDI. Apart from the increased risk of the incidence of a range of somatic diseases in the course of MDI, clinical research also points out to the deterioration of the state of the oral cavity. The clinical image of the oral cavity might differ depending on the phase of the disease. In the depressive stage patients often neglect hygienic activities in the oral cavity, whereas in the maniac phase these activities are performed too energetically. The group of patients suffering from affective disorder is more at risk of falling ill with decay, gum and periodontal diseases, and as a consequence, is exposed to faster loss of their own teeth. The mechanism of deterioration of the health state of the oral cavity is explained by means of two theories – a behavioral and biological one. Medication applied in pharmacological treatment of bipolar disorder also affect the condition of the oral cavity – medicine from the normothymic group, antidepressants, antipsychotic, anti-epileptic. Furthermore, they might interact with the medication used in the daily dental practice. Patients suffering from bipolar affective disorder require special dental care. In the plan of dental treatment regular check-up visits should be taken into account combined with motivational talks encouraging to maintaining proper hygiene in the oral cavity and softening the side effects of the medication applied. The therapy should be conducted in close cooperation with the psychiatrist who manages the case of a given patient. It is worth remembering that the state of the oral cavity has a significant influence on the general health and considerably influences one's self-esteem, confidence and general quality of life.

EATING DISORDER IS NOT ONLY PSYCHIATRIC PROBLEM

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Introduction: Eating disorders are more and more often occurring problem in Polish society. Typically, these diseases affect young people. There are many biological effects of these disorders, including their impact on oral health. The problem of oral health however, is often overlooked by psychiatrists.

Aim: The aim of this study is to assess the oral cavity status of patients with mental background eating disorders.

Materials: Specific dental examination consisted of 40 patients diagnosed with bulimia, anorexia and other mental disorder with symptoms of eating disorders (e.g. vomiting). Swabs were taken for bacteriological and mycological analisys.

Results: Most of the patients had poor oral hygiene. Almost every examined patient required dental intervention and some of them urgent treatment. The microbiological samples revealed the presence of potentially pathogenic bacteria, and a significant proportion of fungal infections.

Conclusions: Eating disorders require psychiatric treatment as an obvious causal treatment. However, the physical health of the whole body and oral cavity have a large impact for treatment of eating disorders. Also correction of aesthetic problems is not without significance for better treatment of mental illness.

INSULIN RESISTANCE AND SKELETAL MUSCLE MASS IN A GROUP OF PHYSICALLY ACTIVE WOMEN AGED OVER 60 YEARS FROM KRAKÓW CITY AND AREA

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Insulin resistance is acquired with age and is often connected with central obesity. Reduced secretions of sex hormones is one of the crucial factors responsible for the increase of insulin resistance. The drop in hormones level is also one of the reasons of sarcopenia, i.e. the skeletal muscle syndrome meaning degenerative loss of skeletal muscle mass, its quality and strength as well as concomitant poorer physical activity of the elderly people. The aim of this study was an analysis of the connection between the incidence of insulin resistance and the body mass composition in a group of studied women.

The study was conducted in 2013 and 2014 in a group of 53 women aged above 60 who were students of the University of the Third Age from Kraków and Wieliczka Poviat. 5 women diagnosed with diabetes were excluded from the statistical analysis. The anthropometric measurements (height, weight, waist and hips) were taken, as well as body composition analysis (% of fat tissue, FFM) using the bioelectrical impedance analysis (BIA) (Tanita BC-418MA) was made. The BMI and WHR indicator were measured. Skeletal muscle mass was determined using Janssen's at al.[1] equation and SMI % i.e. the ratio of total skeletal muscle mass to the body weight was calculated. An in-depth assessment of nutritional status was achieved by performing tests of the serum checking lipids, glucose and insulin levels. When assessing the insulin resistance the HOMA–IR = fasting insulin levels (μIU/ml) x fasting glucose (mmol /l) / 22,5 was used.

The average age of investigated women (n=47) was 65.89±4.91 and their average BMI (27.51±3.37) and WHR (0.87+0.06) indicated excess body weight and central obesity. The average HOMA-IR value in the studied group of women was 2.07±0.81. In order to determine the frequency of the insulin resistance the studied group was divided into quartiles. The highest HOMA-IR 3.23±0.59 was observed for Q3. The statistically significant positive correlation between HOMA-IR result and BMI and the % of fat tissue was confirmed. When comparing the body composition parameters and biochemistry results between Q1 and Q3, significant statistical differences were observed regarding BMI, body mass and fat mass and also SMI %, whose values dropped along with the increase in the HOMA-IR.

One could therefore suppose that the skeletal muscle mass loss may be linked with the growth of insulin resistance.

The study gained the approval of the Ethics Committee of the Jagiellonian University no. KBET/234/B/2012 of 27-Jun-2012. The study was conducted within the KBN project no. K/ZDS/003684.

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NOVEL ZOLPIDEM ANALOGS WITH POTENTIAL ANTIPSYCHOTIC ACTIVITY

Monika MARCINKOWSKA, Krzysztof KAMIŃSKI, Marcin KOŁACZKOWSKI, Adam BUCKI, Grzegorz KAZEK, Agata SIWEK, Paweł MIERZEJEWSKI, Przemysław BIEŃKOWSKI

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English Currently available antipsychotics act primarily via antagonism of dopamine D2 receptors (typical antipsychotics) or via wider range of targets including mainly dopamine and serotonin receptors (atypical antipsychotics) [1]. However, those drugs have only limited efficacy and a long-term treatment may cause various undesirable side effects such as: extrapyramidal symptoms or hormonal and metabolic disorders [2]. Therefore, there is a need to search for new anti-psychotic drugs utilizing different mechanisms of action that could account for better efficacy and spare some of the troublesome side effects.

Recently, our research group has confirmed specific antipsychotic properties of selective GABA-A modulator-zolpidem in animal models, indicating its novel application in the treatment of psychotic disorders [3]. However, zolpidem was introduced on the market as a fast and short-acting non-benzodiazepine hypnotic drug, due to its fast elimination and half time of about 2h [4].

In view of this fact, it can be concluded that short half time of zolpidem may not be suitable for an effective pharmacotheraphy of psychosis. With the aim of adjusting pharmacokinetic profile of zolpidem for the treatment of psychosis and maintaining the pharmacophoric features responsible for biological activity, we decided to introduce fluorine atoms or fluorinated groups to metabolically labile sites of parent compound and evaluate its influence on metabolic stability and affinity to GABA-A receptors.

A series of fluorinated zolpidem analogues was synthesized and characterized for affinity towards GABA-A receptors. Two molecules displayed higher affinity for GABA-A receptors than zolpidem and four compounds showed comparable activity to the parent compound.

In vitro biotransformation study revealed that replacement of both methyl groups with fluorine inhibited effectively phase I metabolism. Similar effect was observed for 4-(fluorophenyl)-6-methylimidazo[1,2-a]pyridine derivative. On the other hand, substitution of single methyl group with fluorine in the para position of phenyl ring was not sufficiently effective. Our research showed that replacement of methyl groups with fluorine improved affinity to GABA-A receptors and resulted in increased metabolic stability. The most interesting molecules were selected for evaluation in animal model of psychosis.

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IX. POSTER SESSION

Presidents of the section: Prof. dr hab. Dariusz ADAMEK, Dr hab. Judit FORRAI, Dr hab. Jolanta PYTKO-POLOŃCZYK, Dr Christoph KLAWE, Dr hab. Bożena MUSZYŃSKA

P-1 THE NEW VOLTAMMETRIC SENSOR WITH THE RENOVABLE WORKING ELECTRODE

Bogusław BAŚ[1], Małgorzata JAKUBOWSKA[1], Witold RECZYŃSKI[1], Ewa NIEWIARA , Włodzimierz OPOKA[2]

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Metallic and amalgam electrodes are widely used in electrochemistry from several dozen years [1]. Voltammetric measurements require application of the electrodes which are characterized by perfectly repeatable and reproducible surface and long periods of parameter stability. Additionally, the regeneration /activation/ modification procedure applied between recordings should be short and simple. The mechanical and chemical polishing or electrochemical activation are recommended in the literature as the renovation methods suitable for solid electrodes. However, these methods are time-consuming and require transfer of the working electrode between systems specified by the different chemical and physical parameters. Therefore the solid electrodes are relatively rarely applied in routine analytical practice.

An original construction of Au and Ag annular band electrodes and a simple device for fast electrochemical renovation of the electrode surface refreshed before each measurement, is presented in the work [2].

Practical usefulness of the presented electrodes, device and method of the fast electrode surface renovation was confirmed in a large number of experiments. The applied electrodes were renovated short before the measurement and was stored inside the device between recordings. The electrode was reactivated before the series of measurements or before a single one. Long time stability of metrological parameters of the electrode and reliability of the device components were observed. The analytical applicability of the metallic annular band electrodes was tested in quantitative determination of Pb(II) and Cd(II) nanomolar concentrations in synthetic solutions with and without addition of surfactants, and in the certified reference materials. The experiment

was conducted using underpotential deposition stripping voltammetry (UPD-SV). A very low rate of surfactants adsorption on these electrodes in comparison to the HMDE was observed. Also advantage of the presented electrodes was the possibility of work in the presence of oxygen. The advanced signal processing procedures were applied for curves transformation and extraction of the maximum relevant information from the experimental data [3].

Acknowledgements

This work was supported by the National Science Centre of Poland (Project No. DEC-2011/03/B/ST5/02713).

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P-2 THE ROLE OF FATTY ACIDS IN THE DEVELOPMENT OF CHILDREN'S COGNITIVE FUNCTIONS

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Proper nutrition contributes significantly to the cognitive development of children. The most intensive developmental phase starts at the third trimester of pregnancy and lasts until 14 years of age. During this period the role of polyunsaturated omega-3 fatty acids cannot be emphasized enough as they help the maturation of the central nervous system and immune system.

Two of the most important omega-3 fatty acids, the eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), promote the development of cognitive and motoric functions, visual performance, and may be used to supplement the treatment of certain psychiatric conditions as well.

The low intake of certain unsaturated fats may contribute to the appearance of several neurological and psychiatric abnormalities (e.g. dyslexia, attention deficiency). Low consumptions of EPA and DHA may correlate with the appearance of ADHD, depression or schizophrenia.

High amounts of omega-3 fatty acids are found in marine fish fat. Portugal has the highest fish consumption with 56 kilograms per capita each year. In Hungary this same figure is 4.1 kg, which, compared to the European average of 22.7 kg, is one of the lowest in Europe. Examining the Hungarian consumption characteristics we see a strong preference of riverine fish, whereas consumption patterns show a strong seasonality.

Studies proved that certain fish oil supplements may contain traces of pollutants. This is why only specific supplements are recommended for pregnant women and children.

P-3 SOME EXTRACTS FROM CÉLINE'S "THE LIFE AND WORK OF IGNAZ SEMMELWEIS"

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Louis-Ferdinand Céline (1894–1961) was a French physician and novelist, precursor of existentialism in literature, compared with Jean-Paul Sartre, Albert Camus and Samuel Beckett. His most famous novel is "Journey to the End of the Night" (1934). "The Life and Work of Ignaz Semmelweis" (1924) was Céline's doctoral thesis (in the field of the history of medicine) which is considered his first literary work. The poster, except for a variety of Semmelweis' and Céline's portraits, both in photo- and graphic form, consists of several extracts from the novel which, on the one hand, are characteristic for Semmelweis' hopeless struggle with the stupidity and smallness of then medical authorities and, on the other hand, for Celine's views on the human condition – for example like that: "Semmelweis' life revealed the danger for those who wish to do good to people".

P-4 BICYCLOPIPERAZINE AND 1,2,3,4-TETRAHYDROISOQUINOLINE DERIVATIVES OF SPIROHYDANTOINS AS POTENTIAL 5-HT$_7$ RECEPTOR LIGANDS

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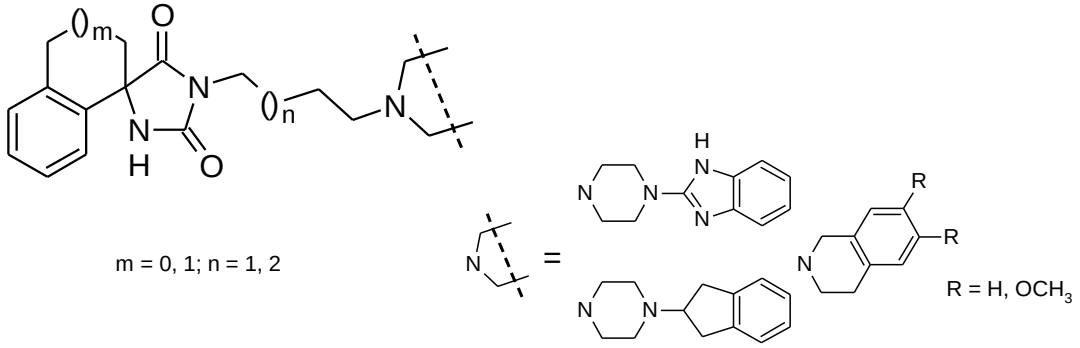
The distribution of serotonin (5-HT) in different areas of the central nervous system can explain the involvement of this neurotransmitter in the regulation of several functions, such as sleep, pain, feeding, and sexual and emotional behaviors. Moreover, the serotonergic system is also regulated other, more complex processes, such as cognition, including learning and memory. Serotonin 5-HT$_7$ receptor is the most recently discovered receptor for 5-HT; therefore, it is also one of the least well characterized. [1] A large group of 5-HT$_7$ receptor ligands has been reported to date, but recent development of selective 5-HT$_7$ receptor antagonists has suggested that they may be useful in treatment of anxiety and depressive disorders. Furthermore, some antidepressants (e.g. amitriptyline, fluoxetine, citalopram) exhibit a high and significant affinity for 5-HT$_7$ receptor. [2, 3]



Continuing our studies in the group of serotonin receptor ligands, we focused on synthesis and verification of structural features determining 5-HT$_7$ receptor affinity. Taking into account the above mentioned goals, we selected spirohydantoins as core imide fragments. Further modifications consisted in diversification of substituent in piperazine ring and variation of the length of an alkylene spacer (C4–C5). Additionally, we replaced arylpiperazine moiety with its 1,2,3,4-tetrahydro-isoquinoline bioisostere.

This study was financially supported by NSC grant (No. K/PBO/000069) and Funds for Statutory Activity of Jagiellonian University Medical College (No. K/ZDS/004652).

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P-5 THE APPLICATION OF DRUGS WITH EPHEDRINE WITHOUT MEDICAL INDICATIONS

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The object of this publication is to show to chemists the purposes of buying drugs with psychostimulants, without medical indications.

Pharmacist practitioners observe for a long time the cases of buying medications with psychostimulating substances in excessive amounts. The knowledge about uses of such a drugs can help to convict a patient about dangers, related to improper use of medications.

The authors focused on the medications which contained ephedrine. The research of available products has been made. The authors checked the present availability of these kind of medications and in a base of Internet forums specified the purposes of using drugs with ephedrine without medical indications. They also analyzed a list of authorized medicines in Poland and on this basis indicated, that actually seven ephedrine containing confections are available, in the form of ampoules, syrups, pills and nasal drops. All this medications are presently available only on prescription. Nevertheless the majority of them could be bought without medical prescription before, and because of that, some of them was purchasing in excessive amounts. The analysis of Internet forums showed, that ephedrine containing medications was using (without medical indications) as:

- Weight Loss Supplements combined with aspirin and caffeine
- Concentration and memory enhancers
- Euphoria inducing drugs
- To production of illegal addictive substances

Results also suggest that, in many cases, the users suffered because of side effects, or get addicted to the active substances. Scale of the phenomenon decreased since medical prescription was required.

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P-6 INFLUENCE OF BALNEOLOGY THERAPY IN PATIENTS WITH HCV

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Introduction

The study involved a group of 180 patient with HCV. 135 of them were RNA positive, 45 were RNA negative.

21 days treatment was composed of peloidotherapy (compresses of peloids), magnetic stimulation, natural carbonic acid water bath.

Each patient was drinking three time in day mineral water specific for thermal area containing carbon dioxide.

Medical examination was arranged for all patients at the beginning and at the and of 21 days clinical trial.

At the and of trial patients filled up questionnaire of patient satisfaction.

Results

In all patients with hepatitis was observed significant reduction of bilirubin, Aspat, ALAT, GGTP,WBC, HGB, PLT.

In medical examination was observed reduction of size of liver.

70% of patients assessed better quality of life after 21 days balneology treatment,

51,7% of patients observed reduction of tiredness, 38 % of patient sleep better and more regular, 92% of patient decided to repeat balneology treatment.

Conclusions

In patients with HCV was observed positive influence of balneology therapy composed of peloidtherapy, magnetic stimulation, natural carbonic acid water bath, drinking of specific mineral water. Health related quality of life increased in 70% of patient.

Key words: balneology therapy, HCV patients

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P-7 METHODOLOGY FOR DETERMINATION OF TITANIUM RELEASED FROM IMPLANTS IN TISSUE BY GF AAS

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Scientific literature contains numerous reports concerning degradation of titanium implants in the environment of body fluids. As a result of this process, particles of the titanium alloy or Ti ions migrate into the human body [1]. The products of degradation are released to tissues surrounding the implant, they also disseminate via the blood stream to distant organs. The health problems that may arise from the corrosion of implants include allergic reactions and tissue necrosis, besides the International Agency for Research on Cancer classified titanium(IV) oxide possibly carcinogenic to humans (group 2B) [2,3].

Monitoring the release of titanium from implants is important especially in the case of devices that will be in the patient's body for a long time. Such problem concerns for example children with infantile scoliosis treated with growing spinal implants. This group of patients required reoperation every few months to adjust the size of the implant to the growing spine. It is possible to collect the soft connective tissue around implants during operation without any harm to a little patient as well as a blood sample, which can be taken while collecting blood samples for routine before-surgery tests.

The aim of presented study was the development of a procedure for the determination of titanium in tissue by a graphite furnace atomic absorption spectrometry (GF AAS). The optimization process involved a microwave digestion program for animal meat and a thermal program for a graphite atomizer. The effect of composition and concentration of three matrix modifiers ($Pd(NO_3)_2$, $Mg(NO_3)_2$ and $NH_4H_2PO_4$) on the analytical signal was investigated. Next, the basic analytical parameters were evaluated, and the developed procedure was employed to analyze the samples of three animal meats (some of them were spiked with titanium) and the samples obtained from patients of the Clinic of Orthopaedics and Rehabilitation in Zakopane (College of Medicine, Jagiellonian University in Krakow) diagnosed with scoliosis that requires surgical treatment (correction without spinal fusion). The results obtained for clinical samples allowed to estimate the effect of sample collection method on the concentration of titanium in tissues. The presented results are an introduction to further clinical research.

This work was supported by the European Regional Development Fund in the framework of the Polish Innovation Economy Operational Program (contract no. POIG.02.01.00-12-023/08).

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P-8 CONTINUOUS WAVELET TRANSFORM AS A TOOL OFOR INTERPRETATION OF NPV PARACETAMOL VOLTAMMOGRAMS INTERPRETATION

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Paracetamol (acetaminophen) is an effective, non-steroidal, antiphlogistic medicine. Its first clinical use dates back to year 1893 and was done by Joseph von Mering. The medicine is considered as very safe in use, so it is administered also for children and infants [1-3].

Paracetamol quantitative determination was performed by means of normal and differential pulse voltammetry using multifunctional electrochemical analyzer M161 (mtm-anko Krakow, Poland). The removable annular glassy carbon electrode was used as the working electrode. For the registration of NPV voltammograms, the signal transformation algorithms were applied such as continuous wavelet transform and a dedicated mother wavelet [4,5]. The applied signal transformation enabled receiving of high quality results due to the improvement of analytical parameters. Calculations were performed in the Mathlab 7.5 environment basing on specially developed and implemented numerical procedures.

The proposed method was successfully applied for paracetamol quantitative determination in commercially available medicines and in the sample of the certified reference material – human urine.

Acknowledgements

This work was supported by the National Science Centre of Poland (Project No. DEC-2011/03/B/ST5/02713).

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P-9 THE MAIN GROUP OF EDIBLE MUSHROOM METABOLITES WITH ANTIOXIDANT ACTIVITY

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Mushrooms are able to accumulate both primary and secondary metabolites. Some of these compounds may play an antioxidant role, e.g. phenolic and indole compounds, flavonoids, terpenoids, sterols, ascorbic acid, ergothioneine, statins, carotenoids. Mushrooms also accumulate trace elements with antioxidant properties, e.g. selenium. Phenolic acids constitute the major part of phenolic compounds present in mushrooms. They exhibit a wide spectrum of biological activities which have been attributed to their strong antioxidant activity and ability to protect vital cellular structures, like cell membranes, and also structural proteins, enzymes, membrane lipids or nucleic acids. The strongest antioxidant properties and capability of cell protection against hydrogen peroxide was evidenced for vanillic acid, and among cinnamic acid derivatives, for caffeic acid. A strong positive correlation was observed between antioxidant activity of edible mushrooms and the amount of phenolic compounds. Phenolic compounds are the most abundant antioxidants in human diet. The antioxidants daily intake approximates 1 g while phenolic acids is about one third of this amount and they are considered to be the most valuable antioxidants. For comparison, daily dietary intake of vitamin C is 10-fold lower and vitamin E and carotenoid intake even up to 100-fold lower.

The investigations revealed the presence of the following acids: protocatechuic, p-hydroxybenzoic, p-coumaric, ferulic, sinapic, vanillic and cinnamic. Both the composition and the amount of phenolic acids in these species were diverse. The total amount ranged from 6.00 $mg \times kg^{-1}$DW in A. mellea to 48.25 $mg \times kg^{-1}$DW in *Boletus badius*. Protocatechuic acid amounts fluctuated in the range of 1.37-21.38 $mg \times kg^{-1}$DW, with its maximum in *Boletus badius*. p-Hydroxybenzoic and sinapic acid dominated in *Pleurotus ostreatus*. Cinnamic acid was at highest amount in *Boletus badius* at levels the ranged from 1.09 to 8.73$mg \times kg^{-1}$ mg DW. In the extracts from edible mushrooms, several indole compounds with physiological activity were identified and quantified. On the basis of the analyses, the following indole compounds were found: L-tryptophan, 5-hydroxytryptophan, 5-methyltryptophan, tryptamine, 5-methyltryptamine, serotonin, indole, indoleacetic acid, indoleacetonitrile, melatonin and kynurenine sulfate. Serotonin, L-tryptophan, 5-hydroxytryptophan, and melatonin are a strong antioxidant. It delays the ageing processes, scavenging the free radicals, such as the hydroxyl radical. The fruiting bodies of *Boletus badius* (Bay Bolete) had the highest antioxidant power due to the combination of

different organic acids: oxalic, citric, fumaric, succinic and malic acid, ergosterol and ergothionein. As was shown by Ey, this species contained the highest amount of the latter compound in comparison with other food products. According to Turkish studies, *B. badius* was evidenced to possess excellent antioxidant properties. The inhibition ability of methanolic extracts of dried *B. badius* at 100 ug×ml^{-1} concentration on peroxidation in linoleic acid system was 99.2%.

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P-10 DESIGN, SYNTHESIS AND ANTICONVULSANT ACTIVITY OF NEW 2-(2,5-DIOXOPYRROLIDIN-1-YL)PROPIONAMIDES AND 2-(2,5-DIOXOPYRROLIDIN-1-YL)BUTANAMIDES

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Even though significant advances have been made in epilepsy research, convulsions in 30% of epileptics are inadequately controlled by standard drug therapy. Furthermore, compliance is often limited by adverse side effects most notably related to CNS exposure like diminished attention, executive function, intelligence, language skills, memory and processing speed. Thus the continued search for safer and more effective drugs is urgently necessary.

Previous researches from our laboratory have identified pyrrolidine-2,5-diones differently substituted at position-1 and -3 as targets for new antiepileptic drugs (AEDs). Many of them were effective in the maximal electroshock (MES) and subcutaneous pentylenetetrazole (scPTZ) screens that are still recognized as the "gold standard" in the early stages of testing new drug candidates. The structure-activity relationships studies (SAR) demonstrated the potent and wide spectrum of anticonvulsant activity (MES, scPTZ, 6-Hz tests), exclusively for the 2-(2,5-dioxopyrrolidin-1-yl)acetamides containing at the amide function phenylpiperazines with highly electronegative chlorine, fluorine or trifluoromethyl substituents.

Following these results in the current studies the library of new 2-(2,5-dioxopyrrolidin-1-yl)propionamides and 2-(2,5-dioxopyrrolidin-1-yl)butanamides was synthesized. These compounds were designed as analogs of previously described acetamides with additional methyl or ethyl group in the alkylamide linker. Furthermore, the proposed alkylamide function (propanamide or butanamide) enabled to approximate the structures of new molecules to levetiracetam which is one of the newest AEDs. The main modifications and the general structure of compounds designed are shown in Fig. 1.

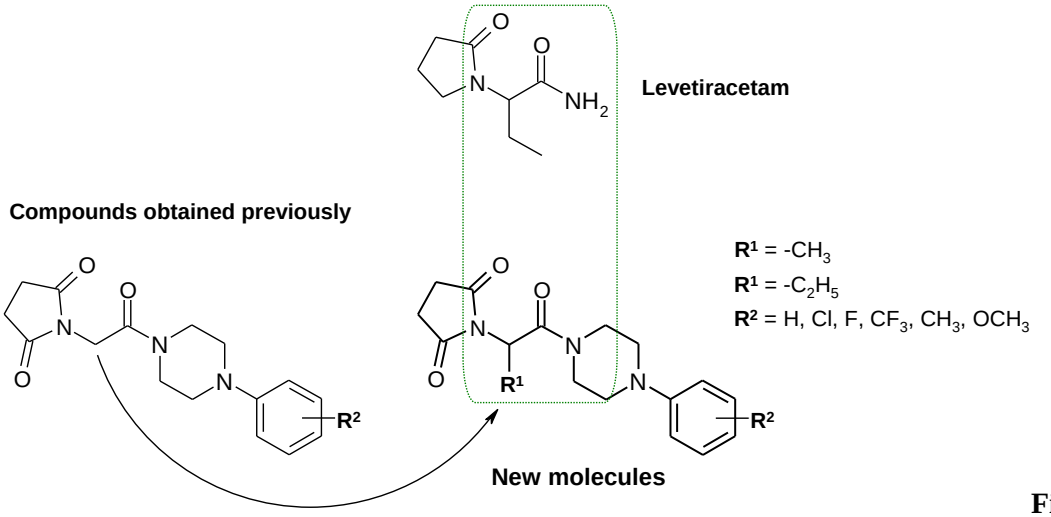

Fig. 1.

The anticonvulsant activity profile of final molecules was determined using maximal electroshock-induced seizure test (MES). This test is thought to be an experimental model of tonic-clonic seizures and of partial convulsions with or without secondary generalization in humans.

The studies were supported by the Polish National Scientific Centre grant – DEC-2012/05/D/NZ7/02328

P-11 ANTI-INFLAMMATORY ACTIVITY OF ZINC-XANTHONE COMPLEXES IN RATS

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Zinc is one of the most important trace element for living organisms. It acts in numerous processes such like proper functioning of enzymes, cell proliferation and differentiation. It is proven that zinc acts the proper functioning of immune system, bone structure and appropriate growth of the organism. Even small deficit of this micronutrient gives serious disorders in a development of the organism. As reported by the sources deficiency of this element results in growth retardation, hypoplasia of the gonads (in males), immune disorders (especially in gastrointestinal and respiratory system). The appropriate intake is also significant during pregnancy. [1] Studies have revealed that supplementation of zinc improves the anti-inflammatory of NSAIDS and protect gastric mucosa against ulceration at the same time. Even some compounds of zinc have anti-edematous activity.

Xanthones are compouns of plant origin. The major source of xanthones derivatives is Garcinia mangostana Linn. Fruits of this plant have been used for years in wound healing, skin infections, stomach ache and diarrhea [2]. Phytochemical studies have revealed that pericarp of this plant contains a lot of polyphenolic compounds including xanthone derivatives [3]. This compounds have o lot of well known biological activities, such as: anti-allergic, anti-tumor, antimycobacterial, cardiovascular and neuropharmacological effects [4]. Due to its chemical construction xanthone derivatives exhibit a strong antioxidant properties. A lot of chronic diseases are associated with oxidative stress. Among them it should be mentioned chronic inflammation, cardiovascular diseases, diabetes and neurodegenerative diseases. It also well known that oxidative stress is a one of the causes of carcinogenesis [5].

Previously conducted studies have shown that xanthone derivatives besides other properties also act as an anti-inflammatory agents. The aim of this study was to evaluate if complex compound of xanthone derivatives with zinc also acts as anti-inflammatory agents. The experiments were carried out on rats, male albino Wistar (120-250g). The complexes were given per os. After one hour in order to produce inflammation, 0.1 ml of 1% carrageenan solution in water was injected into hind paw. Anti-edematous activity was determined using carrageenan-induced hind paw edema test developed by Winter et al. in first, second and third hour after edema induction [6]. Analgesic activity was determined by Randall Selitto method in the third hour after inflammation induction [7]. The statistically significant results were obtained depending on tested compound. Anti-edematous activity of xanthone derivatives varies between 3,44% and 68,20%. Analgesic effect is marked between 3,17% and 47,20%.

The results show that the complexes have anti-inflammatory activity and it is stronger than activity of mother compounds. Complexation with zinc enhanced the anti-edematous and analgesic activity of xanthone in all experiments.

Conducted studies reveals xanthone derivatives-zinc complexes as a potential anti-inflammatory agents. To good understanding of anti-inflammatory effect of xanthone derivatives it is necessary to conduct further investigations.

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P-12 ANALYSIS OF SATURATED AND UNSATURATED FATTY ACIDS IN *IN VITRO* CULTURE OF *BACOPA MONNIERI*

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Bacopa monnieri L. Pennell (Brahmi) a plant belonging to Scrophulariaceae family is one of the most interesting plants from Ayurveda system. The most important active compounds of this plant are triterpenoid saponins called bacosides, alkaloids (such as nicotine and herpestine) and steroid compounds. In respect to human physiology, main action of the mentioned compounds is increasing of blood flow in brain, improving concentration, they also have antidepressant, antioxidant, antiinflammatory, antibacterial, antitumor effects and are also used as a support in neurodegenerative diseases. In our researchthe content of fatty acids in the dry mass of the plant. The plant were cultured on MS liquid medium containing 1 mg/L BAP + 0,2 mg/L NAA under constant light conditions. Saturated fatty acids content is respectively: palmitic acid (32,6%), stearic acid (11,7%), myristic acid (5,2%), decanoic acid (1,7%), lauric acid (1,6%), pentadecanoic acid (0,6%). The content of unsaturated fatty acid is: linoleic acid (17%), oleic acid (15,7%), miristioleic acid (12,6%), cis-10-pentadecanoic acid (0,8%), palmitooleic acid (0,4%). Scientific studies show the important role of fat intake as a factor in the development of many lifestyle diseases like obesity, cardiovascular disease and cancer. In the prevention of these diseases, apart from the level of consumption of fat, its composition is important and particularly the share of saturated fatty acids and mono-and polyunsaturated. The beneficial effects on the human body have mono-and polyunsaturated fatty acid, and the correct ratio of acids from the group of n-6 and n-3 of is 4:1. The human body does not produce enzymes having abilities to synthesize PUFA (Polyunsaturated fatty acids) and it is necessary to provide these compounds in the diet. Basic polyunsaturated fatty acids of the n-6 is linoleic acid, a precursor of arachidonic acid, and the n-3 α-linolenic acid a precursor of eicosapentaenoic acid and docosahexaenoic acid. Eicosapentaenoic acid and arachidonic acid are precursors of so-called. tissue hormones (eicosanoids). Provision of PUFAs, especially those whose body can't synthesize, is an important issue in the diets of children and young people who need them for proper mental development [1]. Modern research indicates a number of risks associated with excessive content of essential fatty acids in the diet. Possible negative effects of reducing the body's natural resistance by the feed by increasing the intake of n-3 fatty acids for healthy people [2]. In contrast, the therapeutic use of these acids in the feeding of persons suffering from inflammatory is fully justified. Reduction of intake of saturated fatty acids and polyunsaturated growth is the most effective way to reduce cholesterol levels in the blood. Many studies show that communities consume a

diet rich in polyunsaturated fatty acids n-3 were characterized by a lower incidence of cardiovascular disease (atherosclerosis, coronary artery disease), certain types of cancer and allergies [3]. Older people are consuming too little n-3 PUFA's may have health problems manifested susceptibility to arthritis, diabetes, cancer, lupus and psoriasis.

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P-13 DEPRESSION

H. MATSUMOTO, A. PILC, G. NOWAK, M. ORDAK, E. DRODOWICZ, A. DZIKLINSKA, J. PIWOWARSKA, B. RYSZEWSKA-POKARSIEWICZ, J. SKRZESZEWSKI, M. SKALSKI, M. RADZIWON-ZALESKA

Laŭ la prognozo de Tutmonda Organizo de Sano, en la jaro 2020, depresio estos la ofta malsano (tuj post kancero) en la mondo. Depresio jam estis konataj antaŭ jarcentoj. Brita Lordo Burton, en XVII jarceno verkis libregon „Melankolio" en kiu li skribis, ke depresio estas pli doloriga ol korpo sufero. Lastatempe en populara semajna gazeto „Politiko" aperis konfeso de elstara pola sportistino Justyna Kowalczyk, multfoja venkistino de oraj ordenoj, ke Ŝi suferas je proprofunda depresio. Depresio ruinigas personan, familian, profesian vivon de la homjoj. Kreskas nombro da sinmortigoj. Sociaj kostoj konstante leviĝas. Kostoj de kontraŭdepresiaj medikamentoj estas tre altaj, kvazaŭ ili estas efikaj en 70 %. Pro menciita kaŭzo estas bezonata medicina kaj scienca esploradoj, kiuj ebligos preventa kuracado en klinika praktiko.

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P-14 PROBLEMS OF "LEGAL HIGHTS" IN POLAND – AN IDEA OF PREVENTION

H. MATSUMOTO, M. LIBMAN-SOKOLOWSKA, M. ABRAMOWSK, J. KIERES-SALOMONSKA, S. FUDALEJ, M. ORDAK, G. SYGITOWICZ, P. SOKOLOWSKA, M. WOJNAR, T. NASIEROWSKI

"Legal Hights" became popular in Poland, same as in European countries. In 2009 year during state action of closing so called 'smart shops' Toxicological Laboratory of National Medicines Institute in Warsaw , determined over 9000 products. For example "Spice" mepherone, ephedrine, psychoactive, amphetamines," stiffy Misha" ivory and other substances.

At the beginning of 2014 year, more the 2500 products offerd by internet and illegal shops were analyzed.

In recents years, in Poland, and as well in Czech Republic are popular home made ephedrine using ephedrine or psedoepherine from drugs Acator Sudafet during manganese salts and acetic acids. Same user are injecting solution from 40 tables every day, up to 6 months. This procedure causes so called ephedrine ,manganese encephatopathy. It is very dangerous for the brain and cause nervological syndrome inresible, which makes young people simiar to HIV dementia. Therefore, it need education; children, young adults, parens, teachers and especially all medicine doctors.

We plan collecting demographic and clinical data from all Poland using standardized tools. We are open to international work operation.

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P-15 THE EVALUATION OF THE ACCUMULATION OF L-TRYPTOPHAN AND THEIR DERIVATIVES IN THE BIOMASS OF *IN VITRO* CULTURES OF SELECTED EDIBLE MUSHROOMS

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Medicinal and antioxidant properties of mushrooms are an excellent combination that constitutes their dietary value and allow using them both as a food and an additive. Nowadays they may be derived not only from their natural habitats and commercial farms, but also from *in vitro* cultures conducted under appropriate conditions.

The aim of presented research is to find optimal physical (lighting, pH) and chemical conditions – consisting of adding to culture media L-tryptophan into cultures *in vitro* of chosen species of edible mushrooms such as: *Agaricus bisporus* (White bottom mushroom), *Boletus badius* (Bay bolete), *Cantharellus cibarius* (Chantarelle). To determine connection of accumulation degree with L-tryptophan and to find the dependence of culture media composition on biomass growth, and its metabolites in comparison to the fruiting bodies of selected mushrooms. Organic substances with huge physiological meaning for example L-tryptophan, especially important for explanation of mechanisms of accumulation and distribution of this substance in *in vitro* cultures. The choice of mushrooms was influenced by practical aspects – a possibility for mass production and also the habits of consumers (due to taste and smell properties).

The obtained fresh biomass: mycelium from *in vitro* cultures of *A. bisporus*, *B. badius*, *C. cibarius* and mycelium of the same species from *in vitro* cultures with addition tryptophan to medium were frozen and immediately dried by lyophilization for quantitative analyses.

The lyophilized biomass was subjected to extraction. The methanol extracts o biomass from *in vitro* culture were subjected to analysis by TLC method coupled with densitometric detection by using Camag (Muttenz, Switzerland) Linomat IV sample applicator, and Camag TLC Scanner 3 densitometer with wincats software. The compounds found in the tested biomass from *in vitro* culture on Oddoux medium without and with addition L-tryptophan were L-tryptophan, 5-hydroxytryptophan, serotonin, melatonin, tryptamine and 5-methyltryptamine (ranged from 4.28 to 132.51 mg/100 g DW). L-Tryptophan is an amino acid exogenous to the human body and therefore it must be supplied to the body with food. The highest amount of L-tryptophan was determined in the extracts from biomass of *B. badius* cultured on medium with addition of L-tryptophan (132.51 mg/100 g DW). In this case was determined also the highest total content of examined indole compounds (168.00 mg/100 g DW). Melatonin was estimated only in biomass of *A. bisporus* cultured on medium with addition of L-tryptophan but in smallest amount (4.28

mg/100 g DW). L-Tryptophan, 5-hydroxytryptophan, and serotonin were detected in each material. It can be suggested that *in vitro* culture of edible mushrooms can be a valuable dietary source of physiologically active indole compounds. It should be taken into account that serotonin does not cross the blood-brain barrier, while L-tryptophan and 5-hydroxytryptophan have this ability and are the precursors of serotonin, and therefore have an antidepressant action. L-tryptophan is a substrate of dopamine, melatonin, adrenaline as well as vitamins (niacin).

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P-16 DETERMINATION OF Ca, K, Mg, Fe, Zn, Mn, Cu, Pb AND Cd IN HONEY FROM SELECTED REGIONS OF THE WORLD

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Honey is a very good known product of bees and because of its medicinal and dietary properties; it is the object of researches. Depending on the geographical conditions and the type of appearing flora, different types of honey can be distinguished. In addition to beneficial organic compounds honey can be an important source of macro and micro elements (K, Ca, Cu, Mg, Mn, Fe, Zn). Besides its nutritional and health properties, it is also an excellent source of information on contamination of the environment in which bees live. The levels of elements were determined in thirteen honey samples from selected regions of the world. Concentration of Ca, Mg, Cu, Fe, Zn and Mn, was measured by flame atomic absorption spectrometry (F-AAS). The potassium concentration was determined by flame photometry. Contents of Cd,and Pb was determined with electrothermal techniques (ET-AAS).

It was estimated that the honey produced in Greece, Turkey, Spain, Poland, Mexico, Argentina and Italy was good quality (compliant with content elements for food products) although they were not completely free of heavy metals. The contents of elements in honey samples were ranged from 1.95 to 9.31 μg/g for Zn, from 4.83 to 35.10 for Fe, from 0.19 to 6.77 for Mn, from 98.77 to1006.90 for Ca, from 388.25 to 4761.50 for K, from 0.24 to 1.53 for Cu and for heavy metals from 0.46 to 2.78 for Pb and in case of Cd from 0.04 to 0.44. According to the obtained results it was investigated that the concentrations of heavy metals in honey samples (except alfalfa honey and eucalyptus honey from Italy) were under acceptable limits for foods.

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P-17 ANALYSIS OF THE CONTENTS OF PHENOLIC COMPOUNDS IN *IN VITRO* CULTURES OF SELECTED EDIBLE MUSHROOMS (BASIDIOMYCOTA)

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Phenolic acids, both derivatives of benzoic and cinnamic acids, possess valuable biologically properties: anti-inflammatory, antioxidant, anticarcinogenic and others. Studies of the accumulation of these compounds focused mostly on plant material. Rich sources of these compounds are representatives of Basidiomycota taxon. The aim of the study was qualitative and quantitative HPLC analysis of phenolic acids in biomass from *in vitro* cultures of selected edible mushroom species belonging to the phylum Basidiomycota: *Agaricus bisporus*, *Boletus badius*, *Cantharellus cibarius*. The agitated liquid cultures of *A. bisporus*, *Boletus badius* and *Cantharellus cibarius* on Oddoux medium were maintained for three weeks. After three weeks the biomass was separated from the liquid medium using a filter paper on Büchner funnel, rinsed with redistilled water. The obtained fresh biomass: mycelium from *in vitro* cultures of *A. bisporus*, *B. badius*, *C. cibarius* (50 g of each species) were frozen and immediately dried by lyophilization for quantitative analyses. Powdered mushroom material was hydrolysed with 2 M hydrochloric acid for 2 h at 100°C. Hydrolysates were extracted with 50 mL of ethyl acetate and concentrated to dryness in a rotary vacuum evaporator at 40°C. The HPLC method was performed according to Ellnain-Wojtaszek and Zgórka with some modifications. HPLC analyses were conducted using an HPLC VWR Hitachi-Merck apparatus: autosampler L-2200, pump L-2130, LiChrospher RP-18e column (250mm×4mm, 5µm) thermostated at 25°C, column oven L-2350, diode array detector L-2455 at UV range 200-400 nm. The mobile phase consisted of solvent A: methanol/0.5% acetic acid 1:4 (v/v), and solvent B: methanol. The gradient was as follows: 100:0 for 0-25 min; 70:30 for 35 min; 50:50 for 45 min; 0:100 for 50-55 min; 100:0 for 57-67 min. Phenolic acid standards of p-coumaric, ferulic, p-hydroxybenzoic, and vanillic acids were from Fluka (Chemie AG), and those of caffeic, chlorogenic, cinnamic, gallic, o-coumaric, protocatechuic, sinapic, and syringic acids were from Sigma (St. Louis, USA). The quantitative analysis of phenolic acids was performed with the use of a calibration curve with the assumption of the linear size of the area under the peak and the concentration of the reference standard. The investigations revealed the presence of the following acids: p-hydroxybenzoic, syringic and gallic acid. Both the composition and the amount of phenolic acids in biomass of *A. bisporus* and *Boletus badius* were diverse. The total amount ranged from 6.07 mg×100 g^{-1}DW in *A. bisporus* to 14.78 mg×100 g^{-1}DW in *Boletus badius*. Syringic acid amounts fluctuated in the range of 1.75 – 9.66 mg×100 g^{-1}DW, with its maximum in *Boletus badius*. Gallic acid dominated in the biomass of the same species (5.12 mg×100 g^{-1}DW). p-Hydroxybenzoic acid was in biomass from *in vitro* culture

of *A. bisporus* at levels 0.70 mg×100 g^{-1} mg DW. In biomass of *in vitro* culture of *Cantharellus cibarius* were not any phenolic compounds before and after hydrolysis.

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P-18 VOLTAMMETRIC METHOD OF DOXORUBICIN DETERMINATION USING THE AMALGAM RENOVABLE ELECTRODE

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Doxorubicin is a derivative of daunorubicine, anibiotic belonging to antracyclins having strong cytostatic performance. Both, its range of action and effectivness, are very high. Therapeutic action relays in bonding double helix of DNA with the formation of a stable complex, what is accompanied by the DNA helix fragmentation, and as a consequence further proliferation of the bacteria cells is inhibited. Anti-cancerogenic action of antracyclins and accompanying cardio-toxic action is related to the formation of free-radicals. Antracyclins cause also failure of cells membranes [1].

Instrumental methods of doxorubicin quantitative determination concentrate on chromatographic techniques, advisable by the European Pharmacopoeia. Voltammetric determination of doxorubicin was performed with the use of 3-electrodes system, as the working electrode the removable film electrode was used (AgLAF–AgSAE) [2,3]. The differential pulse voltammety (DPV) with the adsorptive pre-concentration method was applied for the signal registration. The following elements were optimized: the working film electrode conditioning procedure, composition and concentration of the electrolyte, pre-concentration time and potential, and parameters of the voltammograms registration.

Using the optimized conditions the calibration curve is linear in the range 0 – 10 $mg \cdot L^{-1}$. The obtained detection limit equals 0.02 $mg \cdot L^{-1}$. The procedure was tested by means of determination of the chosen antibiotics in synthetic solutions and in the reference urine sample Seronorm™.

Acknowledgements

This work was supported by the National Science Centre of Poland (Project No. DEC-2011/03/B/ST5/02713).

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P-19 THE INFLUENCE OF ZINC OXIDE AND NANOPARTICLES OF ZINC OXIDE ON THE ANTI-INFLAMMATORY AND GASTRIC ACTIVITY OF KETOPROFEN IN RATS

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Nanoparticles are widely used in medicine and pharmacy, especially in the drug delivery, *in vivo* imaging, as well as in pharmacological agents. Nanoparticles of zinc oxide serve as sunscreens. Moreover, a lot of research indicate their antibacterial and anticancer activity. It is mainly related to their ability to induce oxidative stress signaling cascades, which can lead to bacterial cell death. In some species of bacteria zinc oxide nanoparticles can also disintegrate cell membrane and reduce the formation of the biofilm. It was demonstrated that zinc oxide nanoparticles selectively induce apoptosis in cancer cells without damaging healthy ones. On the other hand zinc oxide nanoparticles produce reactive oxygen species and reactive nitrogen species, which may negatively affect cells. It can result in oxidative stress and inflammatory reaction.

The study's aim was to evaluate the influence of multiple administration (p.o.) of zinc oxide and its nanoparticles on the anti-inflammatory and ulcerogenic activity of ketoprofen.

Male albino Wistar rats (180-240 g) were used in carrageenan-induced hind paw edema tests. In each experiment rats were divided into groups, one of them being the control. Animals received intragastrically zinc oxide or zinc oxide nanoparticles in doses of 7 and 14 mg/kg for two weeks. On the 15th day of experiment rats were given ketoprofen in doses 5, 10 or 20 mg/kg (p.o.). One hour after administration of ketoprofen, 0.1 ml of 1% carrageenan solution in water was injected into hind paw subplantar tissue of rats, according to the modified method of Winter and Lence. The development of paw edema was measured plethysmographically. The anti-ulcerogenic activity were determined in accordance to Komatsu.

The results of the carrageenan-induced hind paw edema test show that zinc oxide and zinc oxide nanoparticles administrated repeatedly caused statistically significant reduction of the edema after 2nd and 3rd hour from carrageenan injection in comparison to the control groups. In rats receiving the nanoparticles the strongest antiedematous effect occurred after 2nd hour, but the overall effect obtained after 3rd hour was similiar in animals receiving zinc oxide or its nanoparticles in the corresponding doses. The present study revealed no changes in the gastric mucosa after administration of zinc oxide or zinc oxide nanoparticles followed by administration of ketoprofen.

According to previously published data on the antiedematous activity of ketoprofen, we conclude that two-week administration of zinc oxide or its nanoparticles in a dose 7 mg/kg do not affect anti-inflammatory activity of ketoprofen, but may exhibit a protective effect on the gastric mucosa while used during NSAID treatment. More research are being conducted to confirm the obtained results.

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P-20 NEW NAFION/PEDOT RECEPTOR FOR VOLTAMMETRIC DETERMINATION OF SODIUM METAMIZOLE

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Sodium metamizole (sodium [(2,3-dihydro-1,5-dimethyl-3-oxo-2-phenyl-1H-pyrazol-4-yl)methylamino] methanesulfonate) is a well known water soluble white powder, known for its high effective analgesic and antipyretic behaviour. According to medical reports using pyralginum is now associated with increased risk of agranulocytosis. Due to continuing researches for confirming this thesis, medicine is looking for new high sensitive method of detecting sodium metamizole in blood and urine [1].

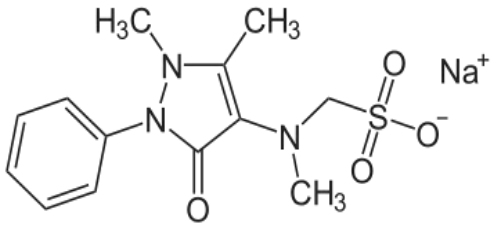

Fig. 1 Molecular structure of sodium metamizole

Most common methods applied for determination of drug is spectrophotometry, titimetry, amperometry, and high performance liquid chromatography [2, 3]. In this study glassy carbon electrode with PEDOT/Nafion film was applied for the determination of sodium metamizole using linear sweep voltammetry. Electrochemical behaviour of metamizole was studied under various conditions. The effects of various factors were optimized such as: preconcentration potential and time, step potential, pulse height, and electrolyte composition. The linear range, detection limit and repeatability of the method was also determined. The proposed method was successfully applied for determination of sodium metamizole in various pharmaceuticals products. The method was validated by studying the recovery from spiked urine and tablets samples.

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Ackonowledgments

This work was supported by The National Centre for Research and Development (NCBiR) within a Framework of LIDER program (No.LIDER/31/7/L-2/10/NCBiR/2011)

P-21 THIOMERSAL DETERMINATION BY CATHODIC STRIPPING VOLTAMMETRY ON REFRESHABLE MERCURY FILM SILVER BASED ELECTRODE HG(AG)FE

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Thiomersal (ethyl(2-mercaptobenzoato-(2-)-O,S) mercurate(1-) sodium) is an organic mercury compound, in its composition to 49.8% by mass contains mercury (Fig1). In the body, it is metabolized to ethylmercury (C2H5Hg+) and thiosalicylate and has been prevent since the 1930s as a preservative in many vaccines and pharmaceutical products, cosmetics and medical devices to prevent bacterial and fungal contamination [1, 2].

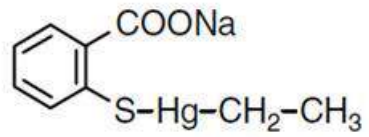

Fig 1. Molecular structure of thiomersal

Various analytical methods for thiomersal determination was reported so far, such as: liquid chromatography, atomic absorption spectrometry, optical emission spectrometry and spectrophotometric methods [3]. Monitoring of the thiomersal content in medical products is very important from the point of view of the toxicity of this compound and the effects on the central nervous system of man.

In the work differential pulse cathodic stripping voltammetry (CSV) is applied for determination of thiomersal using refreshable mercury film electrode Hg(Ag)FE [4]. It solved the problem of limiting the amount of mercury limits the usage of the mercury electrodes in the analytical practice and contribute to increase in the sensitivity of thiomersal determination.

The effects of various factors were optimized such as: preconcentration potential and time, step potential, pulse heigh, and electrolyte composition. The linear range, detection limit and repeatability of the method was also determined. The proposed method was successfully applied for determination of thiomersal in vaccines and other pharmaceuticals products. The method was validated by studying the recovery of thiomersal from spiked vaccines samples.

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Ackonowledgments

This work was supported by The National Centre for Research and Development (NCBiR) within a Framework of LIDER program (No.LIDER/31/7/L-2/10/NCBiR/2011).

P-22 INDIVIDUAL THERAPEUTIC APPROACH IN THE TREATMENT OF CERVICAL DISCOPATHY – CASE REPORT

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Keywords: cervical spine, discopathy, disc disease, conservative treatment

Cervical pain due to disc disease is a common problem in present world. There are many therapeutic models of conservative treatment, most authors apply one "favorite" method to all patients. Among methods of conservative treatment, the most popular is "classic" one, including rest, Schanz collar, pain relieving medicaments in acute phase and some basic rehabilitation techniques. Individual therapeutic approach include various techniques applied on different stages of treatment: Cyriax and McKenzie method, osteopathy techniques, musculo-fascial, mobilization and manipulation techniques (HVLA), etc. Additionally different exercises in the area of neck, shoulder girdle and trunk were used as well as elements of functional work (PNF, NAP).

The goal of this study is to present two cases of cervical discopathy successfully treated with individual approach.

Case 1 is a 16-yrs old girl with acute neck pain after minor injury during gymnastics. At the first day she suffered from pain – 4 in 10-grades own scale. At the day of injury the pain was stronger (grade 6). She had a neck pain during extension, lateral bending and rotation to the left. There was a decreased range of motion of the neck, particularly to the left. She was neurologically intact. On the base of clinical and radiological examination a diagnosis of acute C4/C5 discopathy was established. There was no clinical features of instability. An individual therapeutic approach was started, starting from muscle works in supine, prone and sitting position. Tension was released from suboccipital muscles and superficial neck muscles. Additionally traction with rotation to the left was performed twice. At the following examinations next steps of therapy were introduced: cervical lordosis mobilization, elements of profound massage, etc. End of therapy was after 2 months, a patient was pain-free, she was able to return to normal daily activity.

Case 2 is a 59yrs old man, neurologists, who suffered from neck pain with left radiculopathy. The beginning of symptoms was connected with laryngological surgery, when his head and neck were placed in extension. Additionally 30 years ago he has a car accident, and some occasional neck pain appeared. At present, apart from neck pain, upper limb is painful all the time. Compression tests to the left increase pain. Left rotation increase numbness. Muscle tone in the area of the left nape and left shoulder was increased. MRI of cervical spine reveals Lack of lordosis, narrowing of C5-C6-C7 intervertebral spaces, with changes in interbertebral discs. At

the C5/C6 level a disc protrusion was noted, with narrowing of spinal canal to 9mm. Second discopathy was noted at the level C6/C7, 3-4mm left disc protrusion, with oppression on left C7 nerve root. Neurologically we found weakness of triceps muscle (C7) and paresthesia from C6.

Diagnosis of two level discopathy was established. We started with conservative therapy, with presumption that if conservative therapy is not effective after 3 weeks, patient undergo surgery. An individual therapeutic approach started with combination of exercises for lordosis mobilization and elements of profound massage. Then manual traction and P-A mobilization were introduced. At net stage delicate exercises began, including anti-gravity exercises. End of treatment was after two weeks and significant improvement was noted: pain-free neck motion was possible, without paresthesia. In 3 years follow up, patient is satisfied and there are no indications to surgery.

In conclusion, an individual therapeutic approach may an effective tool in the treatment of various and difficult discogenic pain.

P-23 ACCUMULATION OF BIOLOGICALLY ACTIVE SECONDARY METABOLITES IN VITEX AGNUS CASTUS SHOOT CULTURES

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Vitex agnus castus L. (*Verbenaceae*) is a medicinal plant used in the treatment of eg premenstrual syndrome, abnormal menstrual cycle, corpus luteum insufficiency, menopause (fruits) and show antibacterial, antioxidant and anti angiogenic activity (leaves) [1]. Phenolic acids and flavonoids exhibit potent antioxidant activity. *Agni casti fructus* has its monograph in the VII edition of the European Pharmacopoeia.

Besides plants growing in the open air, tissue cultures can be an alternative source of secondary metabolites. The yield of their accumulation in *in vitro* cultures can be increased by numerous biotechnological methods, including culture medium supplementation with different mixtures of plant growth regulators. The purpose of this study was to investigate the influence of two variants of media and the time of biomass collecting on the accumulation of phenolic acids and flavonoids in *Vitex agnus castus* shoot cultures. Cultures were maintained on Murashige and Skoog medium [2] supplemented with plant growth regulators: variant I – BAP (6-benzylaminopurine) 1 mg/l; NAA (1–naphthaleneacetic acid) 0,5 mg/l; GA_3 (gibberelic acd) 0,25 mg/l; variant II – BAP 2 mg/l; NAA 0,5 mg/l. Plant materials were collected after 3,4 and 5 weeks. Phenolic acids and flavonoids were assayed in the biomass before and after acid hydrolysis (2 M HCl). Qualitative and quantitative analysis of secondary metabolites were conducted by an HPLC method [3]. Some phenolic acids (eg protocatechuic, chlorogenic, p-hydroxybenzoic, caffeic acids) and flavonoids (eg cinaroside, luteolin, apigenin) were determined in the extracts. The content ranged from 0,1 to 28,5 mg/100 g d.w. and from 0,2 to 56,3 mg/100 g d.w. (phenolic acids and flavonoids, respectively). The obtained results indicate growth regulator – dependent effect on the accumulation of the secondary metabolites.

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P-24 STATUS OF ORAL CAVITY AMONG HEMODIALYZED PATIENTS WITH CHRONIC RENAL INSUFFICIENCY

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Chronic renal insufficiency and long-lasting treatment predispose to pathological changes within oral cavity. Disorders in the structure of teeth and periodontium, gingivitis and mucosal lesions have a highly negative effect on human organism and induce multi-organ dysfunctions. Prophylaxis and regular dental check-ups allow dentists to find early signs of infection, implement therapy and improve quality of life for hemodialyzed patients.

The aim of this study was the assessment of oral cavity among patients suffering from chronic renal failure.

The study was carried out on a group of 240 patients. Eventually 60 patients met the criteria (23 women and 37 men). The rest of the group was excluded because of complete tooth loss and systemic infectious disease. Detailed anamnesis and dental examination were performed on each person. Decay-missing-filled (DMF) and Oral Hygiene Index (OHI-S) were used to estimate the status of the teeth and periodontium.

Examined group characterized with average DMF index = 21,63 (n=60). Studies show higher DMF rate among men (21,92) than among women (21,17). An average OHI was overall 1,57 (n=60) and reached value from 1,46 in women and 1,63 in men. Only two patients had an excellent oral hygiene (OHI=0) in comparison to six patients with OHI=3.

During chronic renal insufficiency systemic abnormalities are associated with pathological changes in oral cavity. The average DMF index is extremely high whereas the average OHI indicates poor oral hygiene. The vast majority of hemodialyzed patients requires dental care. The cooperation between dentists and nephrologists is necessary to properly take care of the patients.

P-25 POTENTIOMETRIC SENSOR PLATFORM

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An Ion-Selective Electrodes (ISEs) produce a potential that is related to the activity of an ions in the presence of others [1]. Thus, they can be used as analytical tools for direct measurement ion content in complex samples in clinical chemistry, neurophysiological laboratories [2] and in environmental analysis [3].

In our study we propose to use carbon black as an intermediate layer in potentiometric complex multielectrode system consisting of electrodes containing potassium, sodium, chloride and nitrate selective membrane (with built-in reference electrode). These modificated sensors have shown great improve in parameters in comparison with non-modified sensors especially in long term potential stability and absence of water layer between ion-selective membrane and conductor thanks to hydrophobic character of carbon. This new multielectrode system make it possible to obtain information about concentration of more than one ion in analyzed sample, which greatly shortens the time and lower the costs of analysis.

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This work was supported by The National Centre for Research and Development (NCBiR) within a framework of LIDER program (No. LIDER/31/7/L-2/10/NCBiR/2011).

P-26 NITRATE-SELECTIVE POTENTIOMETRIC SENSORS WITH POLYMER-CB COMPOSITES

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Among the techniques of detection used in clinical analysis, electrochemical sensors with potentiometric selection are especially attractive. It was shown in [1] that carbon black (CB) can be successfully used as an active ion-to-electron transducer layer in Solid-State Ion-Selective Electrodes (SS-ISEs). The CB exhibit many excellent properties such as high conductivity, large surface area, high hydrophobicity and low production cost. Considering the mentioned qualities it becomes obvious that the carbon black is the most advantageous material for the fabrication of the solid-state selective electrodes.

The potentiometric properties of all-solid-state nitrate-selective electrodes based on polymer-CB composites containing different types of nanosized carbon black were investigated. The use of a carbon black interlayer is shown to significantly improve the potentiometric response. The electrodes display a close-to-Nernstian slope in the range from 10^{-1} to 10^{-6} M, highly stable potentials and low membrane resistance. However, different analytical features were found depending on the type of carbon black used.

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This work was supported by The National Centre for Research and Development (NCBiR) within a framework of LIDER program (No. LIDER/31/7/L-2/10/NCBiR/2011).

P-27 ALL-SOLID-STATE POTASSIUM-SELECTIVE ELECTRODE USING PLATINUM NANOPARTICLES FOR CLINICAL USE

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Platinum nanoparticles (PtNPs) layer is used as an ion-to-electron transducer in the solid-state ion-selective electrode (SC-ISE). The electrode was obtained basing on the addition of the PtNPs as an intermediate layer between the ionophore-doped solvent polymeric membrane and the electrical conductor [1].

The PtNPs layer was characterized by the high resolution transmission electron microscope, the selected area electron diffraction and the X-ray photoelectron spectroscopy. The performance of the new electrode was evaluated by the determining of K^+. The new electrode presented a Nernstian slope, a very good reproducibility of the standard potential values and a small potential drift. These qualities make the potassium sensor promising for clinical use.

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P-28 VOLTAMMETRIC DETERMINATION OF COENZYME Q10 USING THE RENOVABLE ANNULAR AMALGAM ELECTRODE

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Ubiquinone (coenzyme Q10) is an organic compound belonging to the quinones group, present in the mitochondria of plant and animal cells. It is responsible for electron transfer in electron transport chains in photosynthesis and respiration. Biochemical structure of CoQ and its application in medicine is widely recognized and described in literature [1,2].

Voltammetric determination of Q0 and Q10 coenzymes with the use of carbon electrodes in 100% acetic acid + acetonitrile + sodium acetate solution were published by Michałkiewicz [3]. The obtained results encouraged the authors to continuing research with the aim to lower the detection limit of CoQ10, improving selectivity and robustness in relation to interfering agents. CoQ10 determinations were performed in the standard system with the use of cyclic removable film electrode as the working electrode. The film was placed through the mechanical deposition of a thin layer of liquid silver amalgam [4].

In optimized conditions, the calibration curve is linear in the concentrations range 0 – 10 $\mu mol \cdot L^{-1}$. Obtained detection limit equals 0.07 $\mu mol \cdot L^{-1}$. The efficiency of the analytical system was tested by analyses of the chosen dietary supplements. By application of the procedure of peaks separation the possibility of simultaneous determination of CoQ10 and α-tocopherol using the presented electrode was proven.

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This work was supported by the National Science Centre of Poland (Project No. DEC-2011/03/B/ST5/02713).

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P-29 SOLUBLE INORGANIC CONTAMINATS OCCURRING IN FISH, OMEGA-3 FATTY ACIDS FORMULATIONS

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Omega-3 fatty acids formulations are frequently used in many types of situations (pregnant women, children and adults with immunological problems, people with heart diseases), – one of the most important usages of these substances can be found in chronic heart failure. Oils used in omega-3 acids dietary additives and drugs are mainly obtained from various fish species from all around the world. Considering the fact that fish are one of the highest levels of the oceanic food chain, the accumulation of toxic elements in fish tissues may be considerable.

The first goal of this work was to determine whether the omega-3 fatty acids formulations are contaminated with toxic elements and on what level. Secondly, to estimate the possible chronic and acute toxic effect that can be observed in patients who received these formulations.

Typical formulations of omega-3 fatty acids from commercial drugstores were used in the research.

The fish oil was extracted from capsules, accurately weighted and mineralised with an addition of nitric acid (Merck Suprapur®) in an acid mineralisation Teflon vessel (Parr Instruments –USA). Digested sample was evaporated to almost dry residue, and then solved in a 5ml volumetric flask with quadruply distilled water. Afterwards Pb^{2+} and Cd^{2+} were determined simultaneously by anodic stripping voltammetry (MTM Anko Electrochemical analyser with an electrode stand). The measurement cell was set up in a standard three electrode way. CGMDE (Controlled Growth Mercury Drop Electrode) was used as a working electrode; double junction silver/silver chloride electrode was used as a reference and a platinum wire as an auxiliary electrode.

The results show that there are considerable amounts of lead in fish oil formulations. Although cadmium was below detection limit the lead concentrations ranged from 0.41 μg/g to 8.48 μg/g what (according to Polish Health Ministry recommendations) does not exceed tolerable level but due to lead accumulation can provoke adverse effects in future. Project K/ZDS/003205

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P-30 FLOW INJECTION ANALYSIS WITH AMPEROMETRIC DETECTION FOR DRUGS DETERMINATION USING THIN-LAYER CELL WITH GLASSY CARBON/CNT ELECTRODE

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Nowadays, pharmaceuticals analysis are popular research area in the analytical chemistry. Main analytical techniques are chromatographic, electrophoretic, spectroscopic and electrochemical methods [1].

Carbon nanotubes (CNT) play an essential role in the scientific community because of their unique and superior physical, chemical and mechanical properties. Because of their good electrochemical activity CNT are widely used in electrode modification [2].

Flow injection analysis (FIA) has become a multipurpose tool for different analyses [3]. FIA techniques has made a major contribution to the development of automation in pharmaceutical analysis. FIA based on a three rules: sample injection, controlled dispersion of the injected sample zone and reproducible timing of its movement from the injection point to the detector. Advantages of FIA techniques have been described in various articles so far [1].

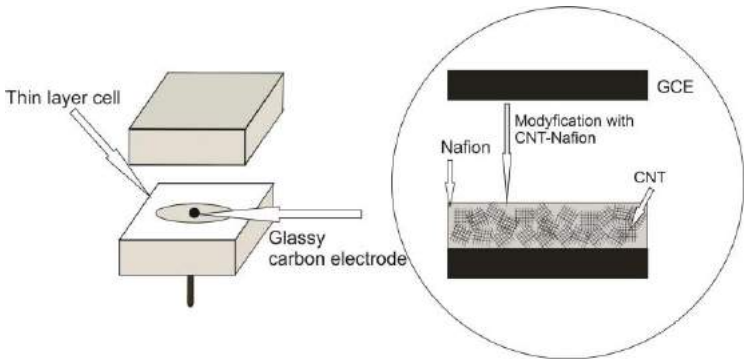

Fig 1. Working electrode modification.

In the work flow injection analysis with amperometric detection was used for drug determination using thin layer cell with glassy carbon/CNT electrode. Working electrode modification is shown in figure 1. Impacts of several factors were optimized including potential and flow rate. Furthermore performance of two electrode were compared. The first one was bare electrode and the second was GC electrode modified with CNT. Obtained results shows that

carbon nanotubes improve the analytical signal of drug. Calibration of propose method was also performed.

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This work was supported by The National Centre for Research and Development (NCBiR) within a framework of LIDER program (No. LIDER/31/7/L-2/10/NCBiR/2011).

P-31 VOLTAMMETRIC AND AMPEROMETRIC – FLOW INJECTION SYSTEM FOR SENSITIVE PAROXETINE ANALYSIS USING A MWNTS/NAFION MODIFIED GLASSY CARBON ELECTRODE

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The antidepressant-paroxetine (3S,4R)-3-[(1,3-benzodioxol-5-vloxy)methyl]-4-(4flurophenyl) piperidine) – (Fig.1) is a selective serotonin reuptake inhibitor (SSRI). Paroxetine is used in treatment of depression, social anxiety disorder, panic fits, obsessive-compulsive disorder and posttraumatic stress disorder [1-3]. Therefore, SSRIs are currently widely prescribed medications [3]. Several methods for determination of paroxetine were reported, such as: gas and liquid chromatography, mass spectrometry analysis and voltammetric methods [4,5].

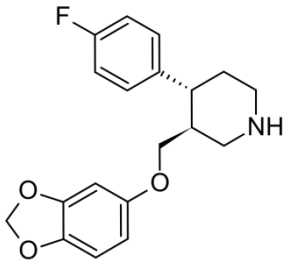

Fig 1. The structural formula of paroxetine

In the work differential pulse adsorptive stripping voltammetry (AdSV) is applied for paroxetine determination using MWNT/Nafion modified glassy carbon electrode. The effects of various factors such as: preconcentration potential and time, pulse height, step potential and supporting electrolyte composition are optimized. In addition the linear range, the detection limit (LOD) and repeatability of the method was calculated. Proposed method is characterized by high LOD, achieved by MWNT/Nafion compound film electrode. Sensitive voltammetric paroxetine sensor was validated by determination paroxetine in drug- Paxtin and urine.

Paroxetine was also successfully determined by amperometric flow injection analysis. This method confirm that carbon nanotubes cause increase 5-fold in sensitivity of paroxetine determination compare to bare electrode.

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P-32 CHANGES IN THE LEVEL OF ENDOCANNABINOIDS AND ENDOCANNABINOID-LIKE MOLECULES IN DIFFERENT BRAIN STRUCTURES IN ANIMAL MODELS OF DEPRESSION

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Introduction: Depression as one of the major lifestyle diseases of the twenty-first century is a serious therapeutic problem in modern pharmacotherapy. Despite the existence of several preclinical and clinical studies, the pathophysiology of this brain disorder remains unclear. Although the role of stress, infectious agents, and genetic influence in depression has been well documented, the cause(s) of depression have not yet been completely elucidated. The potential participation of the endocannabinoid (eCB) system in the pathogenesis of depression and in the mechanism of action of antidepressants has been highlighted in recent years.

Aim: The aim of this study was to investigate the changes in the level of endocannabinoids (eCBs), anandamide (AEA) and 2-arachidonylglicerole (2-AG) and of endocannabinoid-like molecules, N-acylethanolamines (NAEs), palmitoylethanolamide (PEA) and oleoylethanolamide (OEA) in different brain structures of animals with induced and genetic depression.

Methods: Bulbectomized (OBX) and Wistar-Kyoto (WKY) rats were decapitated and selected brain structures were isolated. The tissue levels of eCBs and NAEs were determined with the liquid chromatography mass spectrometry (Applied Biosystem: Agilent 1100 and API 2000, column: Thermo Scientific). Data were analyzed by using t-Student test.

Results: In OBX rats, a reduced level of AEA was seen in the prefrontal cortex, hippocampus and striatum, while a rise was seen in the nucleus accumbens. The 2-AG level either increased in the prefrontal cortex or decreased in the nucleus accumbens. At the same time the level of NAEs was increased in the prefrontal cortex and nucleus accumbens. In WKY rats, the level of eCBs and NAEs was either reduced in the prefrontal cortex (2-AG), dorsal striatum (AEA) and nucleus accumbens (PEA) or increased in the prefrontal cortex (AEA).

Conclusions: These findings seem to suggest that dysregulation in the eCB neurotransmitters are implicated in the pathogenesis of depression, but the tissue concentration of eCBs and NAEs seems to be related to the particular animal model of depression.

Acknowledgement: This study was supported by the research grant UMO-2012/05/B/NZ7/02589 from the National Science Centre, Kraków, Poland and statutory funds from the Jagiellonian University (K/ZDS/001425).

P-33 DEVELOPMENT OF ENRICHMENT METHODS IN IMPORTANT MICRONUTRIENTS OF THE *IN VITRO* CULTURE OF *AGARICUS BISPORUS* IN THE THERAPY OF CHRONIC DISEASES

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Mushrooms are characterized by the ability to efficiently retrieve and accumulate all the chemical species present in their immediate environment. This fundamental phenomenon makes basic research of specialized fungi mycelium culture, enriched with specific micronutrients: Fe, Mg, Zn and Cu, essential in order to explain a relationship of collection, distribution and accumulation of these components in *in vitro* cultures. The choice of *Agaricus bisporus* (J.E. Lange) Imbach was made by practical consideration, namely the potential for mass production, as well as the habit of consumers because of its taste and smell. In the commercial culture, fruiting bodies of mushroom is exposed to UV radiation are fortified with vitamin D, this has already been used in normal production. An attempt of an effective enrichment of fruiting bodies in the elements essential for the proper functioning of the human body, as supplementation is important in the prevention of lifestyle diseases. The aim of this study was to enrich mycelium of *Agaricus bisporus* with bio elements desirable in certain proportions with a relatively high increase of biomass at the same time. In mycelium obtained from *in vitro* cultures, the content of macro- and micronutrients were analyzed. Obtained mycelium, from *in vitro* cultures, were freeze-dried and subjected to microwave mineralization. Quantitative determination of individual elements was performed using the Atomic Absorption Spectrometry method. The results of elements content determination in *in vitro* cultures of *Agaricus bisporus* were: Mg: 799.2 – 9640.0 μg/g; Zn: 93.25 – 4465.0 μg /g; Fe – 25,807.0 – 40,512.0 μg /g, Cu: 59.79 -7491.0 μg /g The high capacity for accumulation of the elements by *Agaricus bisporus* mycelium, make them as a good matrix to allow monitoring of the accumulation of bioelements.

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P-34 SELECTED PARAMETERS OF SALIVA OF CHILDREN SUFFERING FROM GASTROESOPHAGEAL REFLUX DISEASE (GERD) IN LODZ REGION, POLAND

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Background: Gastroesophageal reflux disease (GERD) is a chronic symptom of **mucosal** damage caused by stomach acid coming up from the **stomach** into the **esophagus**. This disorder is relatively common in the general population and, since it involves the presence of corrosive fluids in the oral cavity, it results in significant increase in dental erosion.

Material and Method: 45 children and adolescents (7-18 years) suffering from GERD and treated with appropriate medications, outpatients of the Maria Konopnicka Memorial Teaching Hospital no. 4 and the Gastroenterology Clinic of the Medical University of Lodz, Poland and 29 healthy children/adolescents as a control group. Unstimulated and stimulated mixed saliva was collected and the following salivary parameters were measured: pH, buffer capacity and concentrations of inorganic ions – Ca^{2+}, PO_4^{3-}, Na^+ and K^+.

Results: Average saliva pH was slightly lower in patients than in the healthy group, irrespectively of age, both for stimulated and unstimulated saliva. Buffer capacity of saliva was significantly higher in patients than in the control group. Calcium and phosphates concentrations in patients and healthy individuals were similar. Sodium and potassium concentrations were higher in patients than in the control group.

Conclusions: GERD has a certain influence on the chemical composition of both unstimulated and stimulated saliva of child patients. Higher buffering capacity of saliva in patients may be the result of the development of certain protective mechanisms, counteracting dental erosion common in individuals suffering from this condition. Salivary concentrations of Ca^{2+} and PO_4^{3-} ions in patients do not differ significantly from those in the control group. The role of K^+ and Na^+ ions whose concentrations are generally higher in patients remains so far unexplained.

This research was supported by an internal grant of the Medical University of Lodz, Poland, no. 503/3-016-03/503-01.

P-35 THE EFFECT OF 5-METHOXY-DIISOPROPYLTRYPTAMINE (5-MEO-DIPT, 'FOXY') ON EXTRACELLULAR DA, 5-HT AND GLUTAMATE LEVEL IN RAT PREFRONTAL CORTEX AND STRIATUM

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5-methoxy-diisopropyltryptamine (5-MeO-DIPT, 'foxy') was synthesized in 1980 although its popularity increased in the past several years. Nowadays 'foxy' is one of the most popular 'club drug' in the United States, Canada, Japan and Europe. It has been noted in case reports that 5-MeO-DIPT induces visual and auditory hallucinations, insomnia, emotional expression, flashbacks and/or cataleptic states. That contributed to recognition these drug as a hallucinogen, however its mechanism of action in the brain is not fully understood. A comparison of the chemical structure of 5-MeO-DIPT shows structural similarities with serotonin (5-HT) and 3,4-methylenodioxy-methamphetamine (MDMA). That suggests its possible influence on monoamine systems such as dopamine (DA) and 5-HT as a main mechanism of action of these drug. Moreover hallucinations noted after 'foxy' treatment indicate on possible influence on glutamate (glu) system.

The aim of our study was to examine the extracellular level of DA, 5-HT and glu after 5-MeO-DIPT administration in freely moving rats.

Material and methods:

All experiments were performed in a strict accordance with the Polish legal regulations concerning experiments on animals (Dz. U. 05.33.289), and the experimental protocols were approved by the Local Bioethics Commission for Animal Experiments. Determination of extracellular levels of DA, 5-HT and glu on Wistar-Han male rats (280-300 g) was carried out using microdialysis technique. The probe implantation in the frontal cortex (AP + 2.8, DL + 0.8, V -5.7) and in the corpus striatum (AP + 1.8, DL + 2.8, V -7.0) took place 24h before experiments. The frontal cortex or corpus striatum were perfused with a Ringer solution containing (in mM): NaCl, 147; KCl, 4.0; $CaCl_2$, 1.2; $MgCl_2$, 1.0 with a flow rate of 2 μl/min. After 1.5 h wash out period consecutive fractions were collected every 20 min for 5 hrs. 5-MeO-DIPT at doses 10 or 20 mg/kg were administered intraperitoneally after collection of basal fractions. Dialysate fractions were analyzed by High Performance Liquid Chromatography (HPLC) with coulochemical detection. Chromatography was performed using an Ultimate 3000 System (Dionex, USA), coulochemical detector Coulochem III (model 5300, ESA, USA) with 5020 guard cell, 5014B microdialysis cell and Hypersil Gold-C18 analytical column (3 x 100 mm). The mobile phase was composed of 0.1 M potassium phosphate buffer adjusted to pH = 3.6, 0.5 mM EDTA, 16 mg/L 1-octanesulfonic acid sodium salt, and 2 % methanol. The flow rate during analysis was set at 0.7 ml/min. The applied potential of a guard cell was +600 mV, while those of microdialysis cells

were: E1 = -50 mV, E2 = +300 mV with a sensitivity set at 50 nA/V. The chromatographic data was processed by Chromeleon v. 6.80 (Dionex, USA) software.

Results:

Single intraperitoneal administration of 5-MeO-DIPT at a dose of 20 mg/kg but not 10 mg/kg produced increase in DA and glu extracellular levels in rat striatum and frontal cortex. In addition, weak enhancement of 5-HT was observed in the rat striatum. The extracellular level of DOPAC, HVA and 5-HIAA were decreased in both studied brain regions. Intriguing behaviour such as: head shaking, salivation, walking backward , convulsions during first h after 5-MeO-DIPT administration was observed. Moreover, playing piano, tickles movement, tremor and muscle weakens was also observed throughout the study. There was no dramatic changes in body temperature during whole experiments.

Conclusion:

Observed increase in DA and 5-HT extracellular level with concomitant decrease in metabolite extracellular level indicates on inhibition of DA and 5-HT transporters located on DA or 5-HT nerve terminals. Increase in extracellular glu level may cause behavioural symptoms such as convulsions and head shakings and may also indicate on possible hallucinogenic drug action.

Conflict of interest: Non stated

Acknowledgements

Supported by grant from National Centre of Science (NCN) no 2013/09/B/NZ7/04104.

P-36 A DSC APPROACH TO STUDY THE SEMI-DILUTE HYDROXYPROPYL METHYLCELLULOSE (HPMC) MATRICES

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Cellulose ethers are frequently used as the basis for sustained release hydrophilic matrix tablets. When the matrices, containing such polymers, are exposed to aqueous fluids a protective viscous layer around the tablet surface is rapidly forming. This hydrated viscous layer controls water penetration into the central dry core of the tablet, prevents its disintegration and finally prolongs the drug release.

A perusal of literature shows a lot of works dealing with dissolution/release studies, however this behavior is still an interesting problem for pharmaceutical technologists and researchers. Thus the aim of the study was to analyze hydrating hydroxypropyl methylcellulose (HPMC) by means of differential scanning calorimetry (DSC).

The study extends the application of previously developed methodology [1,2] based on DSC freezing/thawing experiments in which the difference in physical properties between freezable water in form of ice and non-freezable water that is tightly bound on the pure HPMC is investigated.

Appropriate DSC curves and data are shown and discussed.

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P-37 EFFECT OF 1,3-DIMETHYLPURINE-2,6-DIONE AND 1,3-DIMETHYLPURINE-2,6,8-TRIONE ON HUMAN PROSTATE CANCER AND NORMAL CELLS

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Theophylline is natural purine alkaloid commonly used in therapy for respiratory diseases. It acts also as diuretic molecule. Effect of theophylline at the cellular level is complex. In the Department of Medicinal Chemistry many theophylline analogues of diverse activities and multidirectional pharmacological action were obtained. However, so far for theophylline and its derivatives cytotoxic and cytostatic activity is not determined.

In this study we analyzed cytotoxic and anti-proliferative effect of theophylline and its analogues: GRN-1, GRN-5, GRN-8, GRN-13 and GRN-20 with analgesic and anti-inflammatory properties. Our experiments were conducted on human prostate cancer (DU-145) and normal (PNT-2) cells. Preliminary results indicate that subtle changes in the main structure of theopylline influence proliferation potency of prostate cancer cells in contract to starting compound. It is very promising results and shed new light on searching for the new potential anti cancer substances based on commonly used substances.

P-38 DETERMINATION OF ZINC RELEASED FROM LYOPHILIZED FRUITING BODIES OF SELECTED EDIBLE MUSHROOMS TO ARTIFICIAL INTESTINAL JUICE BY DP ASV METHOD

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The project were consist of experiments using edible mushrooms species of commercial origin: *Agaricus bisporus* (J.E. Lange) Imbach – White bottom mushroom (Basidiomycota), mainly because this species is widely used for commercial purposes in Poland and Europe. Furthermore most popular wildly growing mushrooms (origin from mixed forest in South Poland) was also used: *Boletus badius* (Fr.) (Bay bolete) and *Cantharellus cibarius* Fr. (Chantarelle). From all mushrooms species, these species are most frequently consumed mushroom in Polish and European society and mainly caused by their taste and health qualities. Mushrooms are able to accumulate both primary and secondary metabolites and also accumulate trace elements. Their fruiting bodies are a good source of zinc because the content of this element in edible mushrooms ranged from 25 to 200 mg/kg. As far as we know is lack information on the release of zinc from mushrooms in the human body. So the aim of present work was to evaluate the concentration of zinc after incubation of lyophilized fruiting bodies of mushrooms in solution of artificial intestinal juice. The conditions imitated human digestive system was created for determination the release degree of this physiologically important element. 500 mg lyophilized young fruiting bodies of each species of examined mushrooms were placed into artificial saliva solution for 1 minute after this centrifuged and placed in a solution of gastric juice, next centrifuged again and transferred to artificial intestinal juice for 2.5 hours. After this time the solution of artificial intestinal juice with mushrooms material was centrifuged, and the solution was decanted and filtered through a syringe filter (fi 33 mm MCE, 0.22 micron). The sample was then mineralized, and zinc were determined by DP released ASV. As a result of experiment we observed the release of zinc ions to artificial intestinal juice in case of each species of examined fruiting bodies of mushrooms.

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P-39 ATTITUDES TOWARDS PEOPLE LIVING WITH HIV AND KNOWLEDGE ABOUT HIV IN DIFFERENT SEXUAL ORIENTATION GROUPS

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Stigma and discrimination against people living with HIV may influence the general population's willingness to take part in voluntary screenings and may compromise medication compliance in those affected. This may influence the dynamics of infection greatly. The aim of our study was to compare and examine the differences in knowledge about HIV and attitudes towards people living with HIV among homosexuals and heterosexuals.

Using the USAID recommendation for assessing attitudes towards people living with HIV, we created a questionnaire measuring shame, blame, social value, fear of infection, discrimination and knowledge. According to the answers given each participant received a score, and the results were then compared between different sexual orientation groups. The results show that homosexual participants knew more about HIV, were less afraid of people living with HIV, and did not blame them as much as the heterosexual participants.

By assessing the HIV discrimination status of our country, we would like to use the results to implement more efficient educational methods and improve the attitude of the general population. Heterosexual transmission is increasing in Western Europe. This tendency could be slowed down if education would emphasize risky behavior rather than traditional risk groups.

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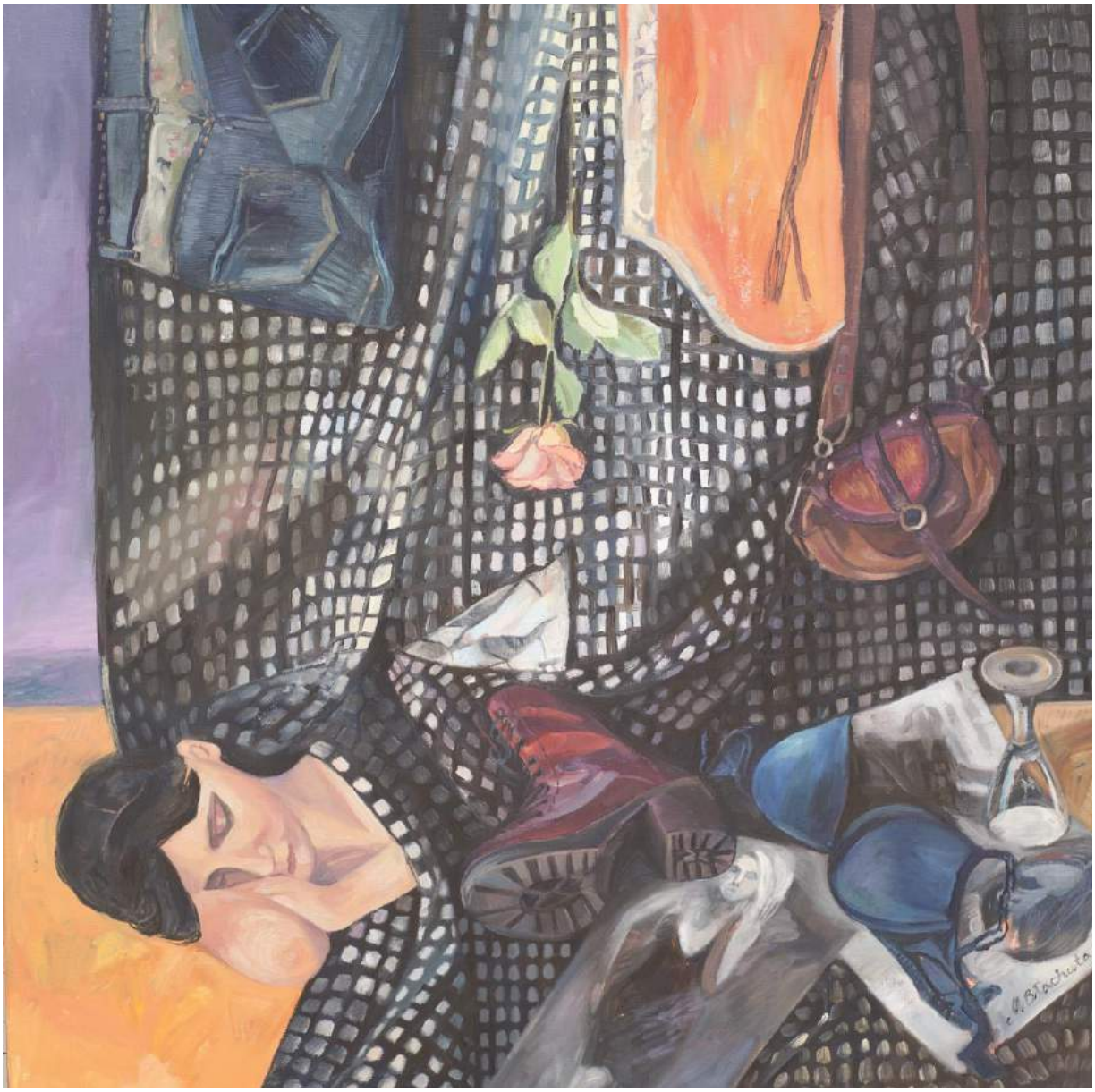
Monika BŁACHUTA

Graduate of the Department of Painting at the Academy of Fine Arts in Cracow. Master of Arts under the supervision of Professor Leszek Misiak. Monika lives and works in Cracow. She observes peoples and analyzes threw Art the relation between World and Human. She makes oil paintings, pastel drawings and graphic Design. Monika is also an author of collection of artworks which become illustrations for two editions of a book: „ Around depression. Pharmacotherapy problems of depression and comorbid conditions " Recently she is absorbed by theme of addictions in nowadays culture what gives a show in her new collection of paintings. Exhibitions:

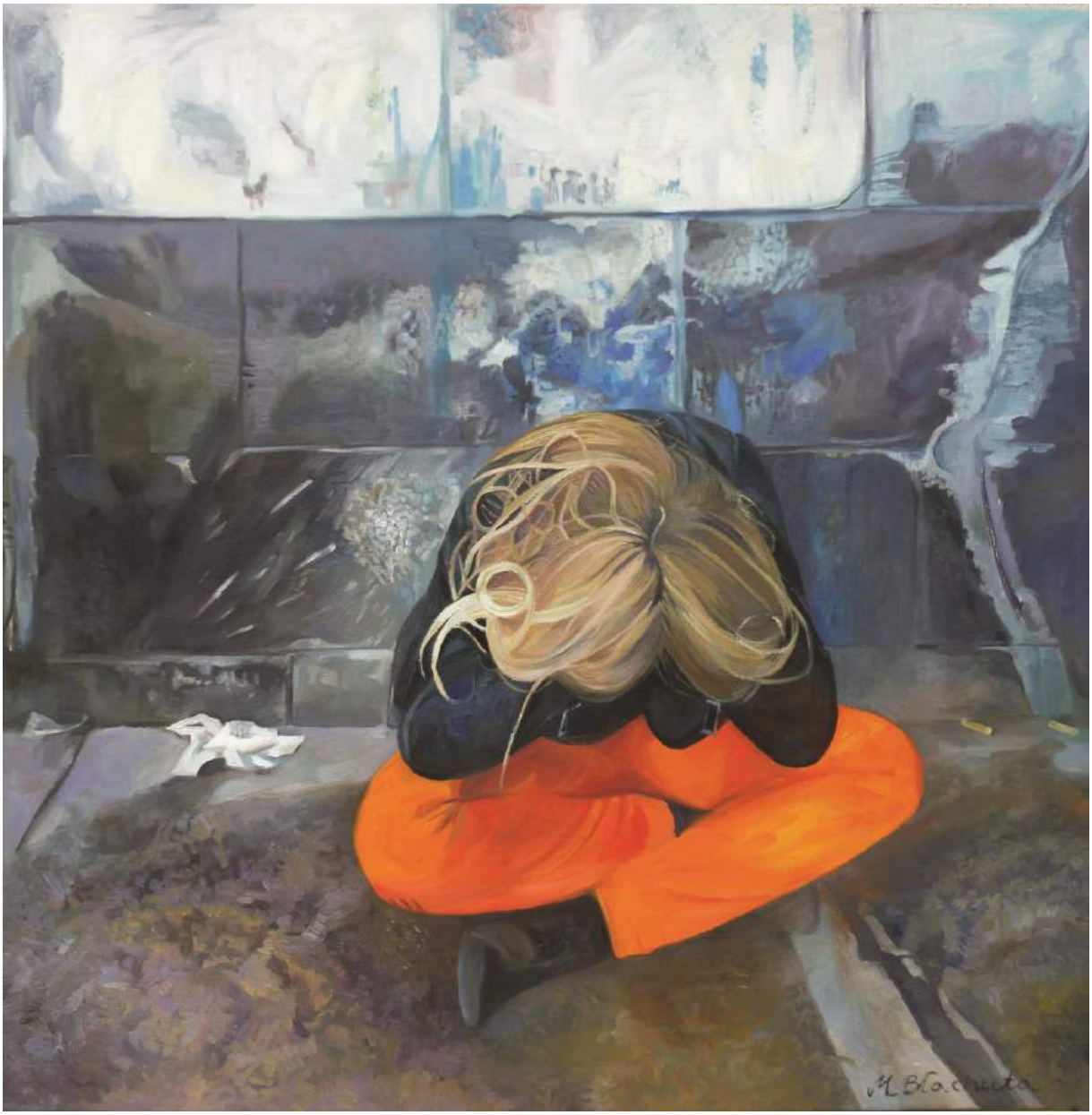
2007 -	"Promotions", Legnica – collective exhibition
2009 -	"Coach House Gallery", Guernsey – individual exhibition
2010 -	"Mourant Prize" Guernsey – collective exhibition
2012 -	"Zamkowa 2", Żywiec – individual exhibition
2012 -	"Dar Pomorza", Gdynia – collective exhibition on the boat
2012 -	SKPWF UJ CM, Kraków – individual exhibition of artworks inspired by problems of drug addiction
2013 -	6th International Biennal Pastel Exhibition – Nowy Sącz, Kraków, Lvow, Bratislava

- „THOUGHTS” by Monika BŁACHUTA



- „ROSE” by Monika BŁACHUTA

- „GIFT” by Monika BŁACHUTA



- „SADNESSBLUE" by Monika BŁACHUTA

MESSAGE OF OUR BUDAPEST MEDICAL ESPERANTO PROFESSIONAL GROUP TO THE PARTICIPANTS OF THE 19TH INTERNATIONAL ESPERANTO-CONGRESS OF MEDICALS (16-20th OF JULY, 2014.)

What is role in the people's health of Esperanto in the era of informatics?

- **Bridge-role of language:** Esperanto helps the universal wisdom to reach the interested people.
- **Capacity development role:** Esperanto helps the **children** to learn other languages, helps the **teenagers** to find friends in the world on a basis of linguistic equality, helps the **adults** more effectively use other national languages, enriching their Latin and Greek scientific vocabulary, and helps the **elderly** to train their brains by "antiaging brain gymnastics".
- **Community-building role based on equal rights:** Esperanto helps the communication as well online, as personal; – for example: twin cities, youth, scientific, artistic, sports meetings, economic relations.

Budapest, 16th of July, 2014.

With friendly and fellow greetings

D-ro Ludoviko Molnár — president

D-rino Julianna Farkas — responsible for personal contacts

English version by *Leo De Cooman*

MESAĜO DE NIA BUDAPEŜTA MEDICINA ESPERANTO-FAKGRUPO POR LA PARTOPRENANTOJ DE LA 19-A INTERNACIA MEDICINISTA ESPERANTO-KONGRESO (16-20-A DE JULIO, 2014.)

Kio estas la popolsanitara rolo de Esperanto en la informadika epoko?

- **Ponto-lingva rolo:** Esperanto helpas, ke la tuthomara saĝo atingu la interesiĝantojn.

- **Kapabloevoluiga rolo:** Esperanto helpas la **infanojn** lerni aliajn lingvojn, helpas la **adoleskulojn** trovi amikojn en la mondo surbaze de lingva egalrajteco, helpas la **plenkreskulojn** pli efike uzi aliajn naciajn lingvojn, riĉigante ilian latinan kaj grekan, sciencan vorttrezoron, kaj helpas la **triaaĝulojn** trejnadi ilian cerbon: – „kontraŭ kalkiĝo cerba gimnastiko".

- **Egalrajta, komunumo-konstrua rolo:** Esperanto helpas la komunikadon kaj interrete, kaj persone; – ekzemple: ĝemelurbaj, junularaj, sciencaj, artaj, sportaj renkontiĝoj, ekonomiaj rilatoj.

Budapest, la 16-an de julio, 2014.

Kun amikaj kaj kolegaj salutoj

D-ro Ludoviko Molnár
prezidanto

D-rino Julianna Farkas
respondeculo pri personaj kontaktoj

BUDAPESTI ORVOS-EGÉSZSÉGÜGYI ESZPERANTÓ SZAKCSOPORTUNK ÜZENETE

A 19. NEMZETKÖZI ORVOS-EGÉSZSÉGÜGYI ESZPERANTÓ KONGRESSZUS RÉSZTVEVŐINEK (2014. JÚLIUS 16-20.)

Mi az eszperantó népegészségügyi szerepe az informatika korában?

- **Híd-nyelvi szerep:** Az eszperantó segít abban, hogy az emberiség bölcsessége elérje az érdeklődőket.

- **Képességfejlesztő szerep:** Az eszperantó segíti a **gyermekeket** más nyelvek tanulásában, segíti a **serdülőket,** hogy barátokat találjanak a világban a nyelvi egyenjogúság alapján, segíti a **felnőtteket**, hogy hatékonyabban használjanak más, nemzeti nyelveket, gazdagítva latin és görög, tudományos szókincsüket, és segíti az **idős embereket** agyuk edzésében: – „meszesedés ellen eszesedés”.

- **Egyenjogú, közösség-építő szerep:** Az eszperantó segíti mind az internetes, mind a személyes kommunikációt; – például: testvérvárosi, ifjúsági, tudományos, művészeti, sport-találkozók, gazdasági kapcsolatok.

Budapesten, 2014. július 16-án

Baráti és kollégiális üdvözlettel

Dr Molnár Lajos
elnök

Dr Farkas Julianna
a személyes kapcsolatok felelőse

X. ESPERANTO TRANSLATIONS

PREVENTION AND CONTROL OF NON-COMMUNICABLE DISEASES TODAY
NUNTEMPA PREVENTA STRATEGIO DE LA NE-INFEKTAJ MALSANOJ

Károly CSEH

Institute of Public Health, Semmelweis University
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Citaĵoj:

„Nuntempe, tutmonde pli ol 60 %-j de la mortokazoj estas sekvo de la ne-infektaj malsanoj (NIM). La NIM-oj kaŭzantaj la plej multajn mortokazojn estas la kardiovaskulaj, tumoraj malsanoj, la sukermalsano de la 2-a tipo kaj la kronikaj pulmomalsanoj. Sur signifa parto de la mondo rapidege disvastiĝas la obezeco (globezeco). La nuna, primara, al la plena loĝantaro direktiĝanta, strategia principo de prevento de NIM-oj estas la preventa agado farata kontinue dum la plena vivodaŭro kaj konsideranta la prioritaton. La nunaj gvidlinioj enhavas plurajn, komunajn, preventajn proponojn: eviti/forlasi la fumadon, teni la korpopezon sur konstanta nivelo (BMI < 25 kg/m2), limigo de konsumado de bestaj grasoj, transgrasoj, sukeroj, konsumado de freŝaj fruktoj, legomoj, nutraĵfibroj en konvena kvanto, farado de fizika aktiveco en konvenaj tempodaŭro kaj intenseco. Oni devas kunlabori kun internaciaj, ŝtataj kaj civilaj organizaĵoj. Laŭ la propono de Monda Organizaĵo de Sano (MOS) estas bezonata ankaŭ la kliento-orientita, kuracista konsultiĝo, kaj la kontrolo de la rezultoj.”

PATIENTS' LEGAL STATUS IN THE 18TH CENTURY ALONG THE PHYSICIANS' LEGAL OBLIGATIONS IN HUNGARY
JURA SITUACIO DE PACIENTOJ EN HUNGARIO EN LA XVIII-A JARCENTO RILATE AL LEĜA OBLIGACIO DE LA KURACISTOJ

Helga Judit FEITH, Edina GRADVOHL, Péter BALÁZS

Semmelweis University Faculty of Health Sciences
Department of Social Sciences

Fono: La ŝtata respondeco-preno kaj priesenca kunlaboro en bone dokumentita kaj spursekvebla jurregula ĉirkaŭaĵo en organizado de la hungara sanitara servo aperis en la XVIII-a jarcento.

Celfiksado: La nuna laboro esploras post prezentado de la plej gravaj juro- kaj etikohistoriaj antecedentoj la juran situacion de la malsanuloj en la XVIII-a jarcento surbaze de dispozicioj de la unua, tutampleksa, hungara, sanitara jurregulo, la Generale Normativum in Re Sanitatis (GNRS), poste komparas tiujn disponojn kun la valida malsanuljrajta reguligo.

Metodo: Kritika interpretado kaj analizado de la GNRS konvene al socia-ekonomia kaj ŝtatadministracia ĉirkaŭaĵo de la 1700-aj jaroj, kaj poste surbaze de la valida reguligo.

Rezultoj: Taksante la regulojn de la sanitaraj normoj eldonitaj ĝis la XIX-a jarcento, precipe tiujn de la GNRS tuŝantajn la malsanulojn, kaj aperantajn en kuracistaj obligacioj, ni konstatis, ke la akiro kaj konservado de kunlaboro de la malsanuloj, ilia respekto en etika kaj jura senco esprimite per la nuna terminologio respektado de iliaj malsanulrajtoj, jam ankaŭ en la 1700-aj jaroj estis ŝlosila demando de la sukcesa kuracado.

Konkludoj: La malsanulrajtaj dispozicioj de nia nuntempe valida sanitara leĝo (1997-a jara CLIV-a leĝo) jam en la XVIII-a jarcento havis priesencajn kaj senperajn, historiajn antecedentojn. La leĝodono de Hungario do sekvis ĉi-rilate en la lastaj 250 jaroj certe la plej modernajn principojn.

HEALTH CARE REGULATIONS OF THE 18-19TH CENTURY MIDWIFERY RELATED TO THE MODERN PATIENTS' RIGHT LEGISLATION

SANITARAJ DISPONOJ KONCERNANTAJ LA AKUŜISTINOJN EN LA 18-19-AJ JARCENTOJ, SURBAZE DE MALSANULRAJTAJ VIDPUNKTOJ

Anna VÁCZI, Helga Judit FEITH, Edina GRADVOHL, Péter BALÁZS

Semmelweis University Faculty of Health Sciences, *Department of Social*, *Zoltán Zsolt Nagy M.D., Ph.D. dean*

Fono: En Hungario en la 18-a jarcento la Generale Normativum in Re Sanitatis (GNRS) estis la unua, moderna ŝtatadministra dispozicio en la sanitara servo, kiu reguligis inter aliaj ankaŭ la obligaciojn de akuŝistinoj. En la sekva jarcento, kiel la dua en Eŭropo naskiĝis la 1876-a jara, XIV-a leĝartikolo pri la ordigo de la publika sanitara servo, sekvante la plej novajn atingaĵojn de la medicino.

Celfiksado: dum niaj esploroj ekzameni la supre menciitajn, jurajn normojn, interrilate kun la eduksistemo de akuŝistinoj kaj kun iliaj servoj, tiel same kompari la historian jurmaterialon kun la valida, sanitara leĝo (1997-a jara CLIV-a leĝo).

Metodo: kritika analizado de reguloj de la GNRS kaj la 1876-a jara XIV-a leĝartikolo koncernantaj la akuŝistinojn kaj ilia komparado kun la malsanulrajtaj dispozicioj de la valida sanitara leĝo.

Rezultoj: En la 18-19-a jarcentoj la jura situacio de la malsanuloj aperis tra unuflanka devigo de la sanitaraj fakoj. Ties ekzemplo estas la prizorgada obligacio, aŭ la malpermeso de la kontraŭjura abortigo.

Konkludoj: Surbaze de la menciitaj reguligoj la ŝtatadministracio atribuis al funkciado de akuŝistinoj specialan signifon. Ili estis unuavice pro naskiĝokvanto-politikaj kaŭzoj elstarigitaj paramedicinaj fakuloj en la 18-19-aj jarcentoj. Oni povas konkludi al tio, ke obligacioj de akuŝistinoj protektis en la tiama Hungario ankaŭ la rajtojn de la pacientoj.

COMPARISON OF PSORIASIS-TREATMENT RESULTS BY ITS PASI (PSORIASIS AREA AND SEVERITY INDEX)-SCORE
KOMPARADO DE KURACREZULTOJ DE PSORIAZO SURBAZE DE ĜIA DIMENSIA KAJ GRAVECA INDICO PASI

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Semmelweis University,Institute of Public Health, Budapest, Hospital of Brothers St.John of God, Budapest National Research Institute for Radiobiology and Radiohygiene, Budapest

Advances of bile-acid-therapy

Avantaĝoj de terapio per galacido

Kaj en Hungario, kaj en la tuta mondo gravas la rezultohava kuracado kaj sanigo de la psoriazo, ja ĝia ofteco levas ĝin inter la publiksanitarajn problemojn. Ĝi tuŝas 100 milionojn da homoj, 1,5-2 %-ojn de la loĝantaro jare kaj teritorie. .En Eŭropo kun sia dateno signifanta 1,5-2 %-ojn de la loĝantaro kaj en Hungario kun sia 150000-200000-a kazonombro ĝi estas unu el la plej oftaj, ne-infektaj haŭtmalsanoj, kaj pro aliaj, pli gravaj, kune kun ĝi aperantaj, ne-infektaj malsanoj ĝi estas grava, klinika kaj preventa zorgo. La proporcio de kelkaj homoj inter psoriazuloj estas 30-35 %-j (tio estas duoblo de la sana loĝantaro).

En la patogenezo de la psoriazo serio de aŭtoimunaj aperaĵoj respondas pri la plirapidiĝinta proliferiĝo de la keratocitoj kaj pri apero de psoriazaj haŭtsimptomoj, en kiuj mem-incititaj, inflamaj mediatoroj (citokinoj) kaj en ilia ekirigo ne-demandosigneble gravaj endotoksino-makromolekuloj (lipido-A) ludas difinan rolon.

Ilia toksa efiko dependas de la lipida parto, riĉa je grasacidoj, tiel en viva organismo, en la intesta kanalo la sentoksigo de la endotoksinoj estas ligita al ĉeesto de la galo, tio estas de la galacidoj (Kocsár kaj aliaj, 1969), (Bertók, 1977, 1999).

Kune kun la identigo de rolo de la galacidoj sur tereno de la endotoksinoj, kaj konsidere de psoriazo, kiel citokino-mediatorita malsano, doniĝis la demando: ĉu povas havi rolon la aplikado de galacidoj en kuracado de la psoriazo, kaj se jes, kun kia rezulto?

Tiuj ĉi faktoj faras forte motivita la esploron de tiuj medikamentoj de la psoriazo, kiuj sufokas la malsanon en ĝia ĝermo kaj blokas la patologian procezon ĉe ĝiaj komencoj.

Celo: Kompari la metodojn de psoriazo-kuracado kaj ilian efikecon (biologia terapio, kuracado per alfa-kalcidolo vitamino D3, antioksidanta terapio) – ĉu kiun el inter ili ni apliku terapie?

Metodo: La aŭtoroj taksis la efikecon de kuracado surbaze de dimensia kaj graveca indico de la psoriazo (PASI-score, Psoriasis Area and Severity Index) helpe de komparado de la datenoj.

Rezultoj: Post 1-8-semajna, perbuŝa dozado de galacido (Suprachol, Acidum dehydocholicum) el inter 551 psoriazuloj 434 (78,8 %-j) fariĝis sensimptomaj. El inter tiuj, kiuj ricevis tradician kuracadon, nur 62 (24,9 %-oj) fariĝis sensimptomaj dum la sama tempo ($p<0,005$). Okaze de akuta psoriazo la galacida terapio estis eĉ pli efika, kun 95,1 %-a sensimptomeco. (Gyurcsovics-Bertók, 2000., Itoh kaj aliaj, 2007).

Konkludoj: Surbaze de la nunaj analizadoj ŝajnas al ni, ke en kuracado de la psoriazo la tradician kuracmetodon kompletiganta, plej simpla kaj plej malmultekosta galacido-terapio estas la plej uzebla.

TRENDS IN TOBACCO PRODUCT EXPERIMENTATION AMONG METROPOLITAN ADOLESCENTS
ŜANĜOJ EN EKSPERIMENTADO PER ALTERNATIVAJ TABAKPRODUKTOJ INTER GRANDURBAJ ADOLESKANTOJ

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Enkonduko: En rondo de adoleskantoj la elprovado kaj uzado estas la plej karakteriza, sed estus inda konsideri ankaŭ la elprovadon de ceteraj, alternativaj tabakproduktoj (ATP = alternative tobacco products, ADT = alternatív dohánytermékek), kiuj estas atingeblaj ankaŭ en Hungario sur leĝa aŭ neleĝa vojoj. La ĝisnunaj, hejmlandaj esploroj en tiu ĉi temo ne donis detalajn informojn pri la ADT-elprovado fare de la gejunuloj, kaj pri ties antaŭdiroj. La celo de la ekzameno estas monitorado de ŝanĝoj en elprovado de ADT-j en longituda specimenaro de grandurbaj adoleskantoj iam ajn elprovintaj la fumadon, respektive la malkovro de sociodemografiaj, individuaj, grupaj, mediaj faktoroj ludantaj rolon en la elprovado.

Metodoj: En nia prospektiva, kohorta, enketila esploro okazanta dum tri jaroj kun ĉiujara datumenigo en Budapest kaj en kvin grandurboj komence partoprenis lernejanoj de la 6-a kaj 9-a klasoj (n=1095; 54 % knabinoj). La analizado de kvin, diversaj ADT-elprovadoj (permane rulumita cigaredo, cigaro, cigareto, akvopipo, pipo, bongustigita cigaredo) okazis per ne parametraj kaj binaraj, plurvariablaj, logistikaj regreso-modeloj.

Rezultoj: La elprovado de ADT-j montris signifan leviĝon ĉe fino de la ekzameno (T1: 76%, T2: 81%, T3: 87 %; Q(2)= 22,47, p<0,001), en la plej granda mezuro leviĝis la elprovado de la cigaro kaj cigareto (18,2 %) respektive tiu de la bongustigitaj cigaredoj (17,9 %). La ADT-elprovado precipe grandmezure pliiĝis inter lernantoj de la 7-a (56,6 %) kaj 8-a (74,8 %) klasoj. Ĝis la fino de la ekzameno plurspecajn ADT-jn elprovis la knaboj, tiuj, kiuj lernis en la ĉefurbo, kiuj jam ĉe la komenco havis pli malbonajn lernrezultojn, kiuj havis pli da poŝmono, respektive tiuj, kies plej bonaj amikoj fumis. Koncerne certajn ADT-jn la ĉeesto de knaboj kaj fumantaj amikoj antaŭdiris iliajn elprovadojn, kaj en kazo de la akvopipo ankaŭ la ne-fumanta, hejma ĉirkaŭaĵo rolis kiel antaŭdiro.

Konkludo: En rondo de fumantaj gejunuloj la elprovado de alternativaj tabakproduktoj ne estas neglektebla. La rezultoj povas doni helpon al efektivigo de planeblaj, celitaj, preventaj programoj por la identigitaj riskogrupoj.

THE ROLE OF FATTY ACIDS IN THE DEVELOPMENT OF CHILDREN'S COGNITIVE FUNCTIONS
ROLO DE ESENCAJ GRAS-ACIDOJ EN KOGNA EVOLUO DE INFANOJ

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La konvena nutrado grandmezure influas la spiritan plenumpovon de la infanoj. La plej intensa evoluperiodo de la cerbo kaj nervosistemo daŭras de la tria, antaŭnaskiĝa trimestro ĝis la 14-jara aĝo. En tiu ĉi periodo la multoble nesaturitaj grasacidoj estas eksterordinare gravaj, ĉar ili helpas la evoluon de nervoĉeloj kaj sanan funkciadon de la imunsisitemo. Oni ne povas sufiĉe akcenti la enigon de eikosapentaenacido (EPA) kaj dokosaheksaenacido (DHA) apartenantaj al ω-3 familio de multoble nesaturitaj grasacidoj (PUFA = polyunsaturated fatty acids), ja ili ludas gravan rolon en formiĝo de spirita, vida plenumaĵo de la infanoj, en evoluo de iliaj motoraj funkcioj kaj konduto, respektive ili donas helpon ankaŭ en kuracado de infanaĝaj psikiatriaj malsanoj. Relativa manko de iuj multoble nesaturitaj grasacidoj povas kontribui al apero de iuj nervo-evoluaj kaj psikiatriaj anomalioj (ekzemple disleksio kaj atentomanka anomalio). La malaltnivela konsumado de EPA kaj DHA povas esti interrilatigebla kun elformiĝo de atentomanka hiperaktiveco, depresio kaj skizofrenio. La grasacidoj omega-3 estas plej grandkvante troveblaj en graso de la marfiŝoj. Ene de Eŭropo en Portugalio estas la plej alta la jara fiŝkonsumado de unu homo, alproksimigante la kvanton de 56 kilogramoj. En Hungario tiu ĉi kvanto estas 4,1 kilogramoj, kiu sufiĉe postrestas de la jara, averaĝa konsumado de eŭrop-uniaj landoj (22,7 kilogramoj). La hungaran fiŝkonsumadon karakterizas decide la preferado de la dolĉakvaj fiŝoj, bedaŭrinde ankaŭ tio efektiviĝas nur laŭsezone. En la preparaĵoj de marfiŝoleoj oni trovis dum la kvalitkontrolaj ekzamenoj spure kaj esceptokaze poluantajn substancojn, tial oni proponas por gravedulinoj kaj etinfanoj nur prenadon de speciala fiŝoleo.

NUTRITIONAL HABITS OF FOURTH YEAR MEDICAL STUDENTS
EKZAMENO DE NUTRIĜKUTIMOJ DE MEDICINSTUDENTOJ EN LA IV-A STUDJARO

BARCZI Szilvia, PONGOR Vince, BESENYEI Gabriella

La san-sinteno de la kuracistoj havas elstaran signifon, ja ili aperas ne nur aktive, per senpera transdono de informoj pri sano kaj malsano, sed ankaŭ kiel rolmodeloj por la pacientoj kaj iliaj proksimuloj. La celo de la kompleksa nutriĝo-sanitara ekzameno finfarita en rondo de medicinstudentoj en la IV-a studjaro de Universitato Semmelweis estis pritaksi la konkretan energio- kaj nutrosubstanco-prenon kaj vitamino-provizitecon de la medicinstudentoj, kaj malkovro de riskofaktoroj de ne-infektaj malsanoj interrilatantaj kun la nutriĝo. La datenkolektado okazis per uzado de norma enketilo „tri-taga, nutriĝa noto", la studentoj krome plenigis sennoman demandilon pri siaj nutriĝaj kutimoj kaj vivmaniero. La demandoj etendiĝis al ritmo de nutriĝo, al ofteco de konsumado de nutraĵoj, al prenado de kompletigaj vitaminoj kaj mineralproduktoj, al kutimoj de fumado kaj alkoholkonsumado, al ofteco de gimnastiko, al taksado de la sanstato, tiel same efektiviĝis plenigo de 3X24-hora nutriĝa taglibro. 77 %-oj de la studentoj taksis sian propran sanstaton bona aŭ tre bona. Al ritmo de nutriĝo de la studentoj estis karakteriza la senorda manĝado, kvankam ĉe la virinoj la proporcio de sisteme manĝantoj pruviĝis pli bona. Dum la manĝadoj ni trovis altan proporcion de saturitaj, kaj malaltan propocion de ne-saturitaj grasoj. 70,5 %-j de studentoj en la specimenaro surbaze de korpomaso-indekso estas envicigeblaj en la normalan kategorion, 29,4 %-j de la knaboj troviĝas en la kategorio de tropezuloj kaj obezuloj, male, 13,8 %-j de la knabinoj estis subnutritaj. La korpomoviĝo estas unu el la plej signifaj san-sintenaj faktoroj havantaj preventan valoron, tial estas precipe maltrankviliga, ke estas tre alta la proporcio de tiuj studentoj, kiuj absolute ne faras korpomoviĝon.

ATTITUDES TOWARDS PEOPLE LIVING WITH HIV AND KNOWLEDGE ABOUT HIV IN DIFFERENT SEXUAL ORIENTATION GROUPS
KOMPARADO DE SINTENO DIREKTE AL HIV-POZITIVAJ PERSONOJ, RESPEKTIVE SCIO PRI DISVASTIĜO DE LA VIRUSO EN DIVERSAJ GRUPOJ DE SEKSA ORIENTIĜO

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La stigmato kaj diskriminacio direkte al HIV-pozitivaj personoj povas signife influi la pretecon de la loĝantaro por partopreni filtroekzamenon, respektive la akceptadon de la kuracado fare de la koncernatoj. Tiuj ĉi faktoroj povas forte modifi la dinamikon de la infekto. La celo de nia esploro estas kompari la konojn konekse kun la viruso kaj la sintenon direkte al HIV-pozitivaj personoj en diversaj grupoj de seksa orientiĝo.

Surbaze de rekomendo de USAID ni kunmetis tian enketilon, kiu egale mezuras la prijuĝon, la kulpigon, la socialan, aprezan prijuĝon, la timon je infektiĝo, la diskriminacion kaj la scion konekse kun la viruso. Surbaze de la respondoj la partoprenantoj akiris po unu poentonombron, kaj ni komparis la rezultojn inter la heteroseksualaj kaj homoseksualaj/samseksemaj grupoj. La rezultoj montras, ke la homoseksualaj respondantoj sciis pli pri la HIV, malpli timis la HIV-pozitivajn personojn, respektive malpli rifuzis ilin.

Per niaj demandoj ni volis atingi tiun celon, ke sur ia nivelo ni pritaksu la scion kaj sintenon de la loĝantaro en intereso de evoluigo de pli efikaj instrumetodoj. La nombro de heteroseksualaj malsaniĝoj senĉese kreskas en Okcidenta Eŭropo. Por malrapidigi ĉi tiun tendencon la instruado devus prefere emfazi la danĝerajn kondutmodelojn ol paroli pri la tradiciaj riskogrupoj.

NUTRITIONAL AND HEALTH HABITS OF ELEMENTARY SCHOOL STUDENTS
NUTRIĜAJ KAJ SANKONDUTAJ KUTIMOJ DE BAZLERNEJANOJ

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El popolsanitara vidpunkto signifa problemo de nia epoko estas la kronikaj, ne-infektaj malsanoj kaj la mortokazoj kaŭzitaj fare de ili. En prevento de tiuj ĉi morbostatoj la vivmanieraj faktoroj havas grandan potencialon. La elformiĝo de la diversaj, utilaj kaj malutilaj, vivmanieraj faktoroj kaj kutimoj jam en la infanaĝo estas spursekveblaj. Ili povas preventi aŭ en donita kazo helpi la aperon de multaj malsanoj.

La frekvenco de la infanaĝa tropezo kaj obezeco de jaro al jaro kreskas. La statistiko montras, ke la nombro de tropezaj kaj obezaj infanoj en Eŭropo ĉiujare kreskas. Apud la ne-sana nutriĝo ludas gravan rolon la proporcio de malmulte moviĝantaj personoj. Nia ekzameno direktiĝis al ekkono de nutriĝaj, moviĝaj kaj libertempo-pasigaj kutimoj de infanoj vizitantaj la pli superajn klasojn de bazlernejoj.

Nia esploro deziras alvoki la atenton al grava problemo: al ĉeesto de vivmanieraj faktoroj helpantaj la elformiĝon de tropezo, jam ankaŭ en la juna aĝogrupo pere de ni ekzamenita, kaj en strikta interrilato kun tio al risko de apero de diversaj, kronikaj, ne-infektaj malsanoj.

HUNGARIAN HIGH-SCHOOL STUDENTS' ATTITUDES TOWARDS THE HPV VACCINE
SINTENO DE HUNGARAJ MEZLERNEJANINOJ DIREKTE AL VAKCINO HPV

Balla BETTINA, Claudia TEREBESSY, András TÓTH, Péter EMESE BALÁZS

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En Hungario la kancero de utera cerviko respondecas ĉiujare pri la morto de proksimume 500 virinoj. La mortalitato ekde jaroj ne ŝanĝiĝas, spite al tio, ke la malsano estas preventebla, kaj ekde la jaro 2003. funkcias organizita filtrado de la loĝantaro en rondo de 25-65 jaraĝaj virinoj. Kiel primara preventa ilo ekde la jaro 2007. la imuniga vakcinado kontraŭ HPV estas atingebla por junaj knabinoj kaj virinoj, ekde la jaro 2009. ankaŭ por knaboj.

Celfiksado: La celo de nia esploro estis pritaksi la sintenon de kursfinantaj, budapeŝtaj mezlernejaninoj direkte al vakcinado HPV kaj iliaj konoj pri la kancero de utera cerviko.

Samplo kaj metodo: Ni faris sennoman, memvolan, kvantecan, sociologian, enketilan ekzamenon. 492 lernantinoj de 12 laŭhazarde elektitaj mezlernejoj plenigis nian enketilon konsistantan el 54 respondo-elektaj demandoj pri socio-demografiaj datenoj, vivmanieraj faktoroj, scio pri kancero de utera cerviko, respektive pri vakcinado kontraŭ HPV. Sur niaj datenoj ni faris oftecan ekzamenon, provon X2 laŭ Pearson kaj loĝistikan regreson helpe de SPSS 21.0.

Rezultoj: La interrilato de HPV kaj la kancero de utera cerviko estis konata nur por 33,7 %-j de la respondintoj, sed 70,0 %-j de ili vicigis la HPV-infekton al veneraj malsanoj. 23 %-j de la knabinoj plenigintaj la enketilon estis jam vakcinitaj, inter ili la gimnazianinoj estis signife pli multaj, ol la fakmezlernejaninoj ($p<0,001$), kaj ankoraŭ pluaj 13,9 %-j ŝatus sin vakcinigi kontraŭ HPV. 79,5 %-j de la knabinoj vakcinigus sian estontan infanon, kaj 59,9 %-j farus deviga la vakcinadon kontraŭ HPV.

Konkludoj: La scio de nia ekzamenita samplo pri kancero de utera cerviko kaj pri vakcinado kontraŭ HPV ne pruviĝis sufiĉa laŭ nia prijuĝo. Tiu ĉi rezulto akcentas la gravecon de plibonigo de la sanedukado. Tiuj, kiuj havis pli multe da konoj pri la malsano kaj ties prevento, samtempe montris pli grandan emon al vakcinado, kaj ankaŭ tio subtenas la signifon de la edukado.

PERCEIVED STIGMA IN PEOPLE LIVING WITH HIV IN HUNGARY
MEM-TAKSITA STIGMATO DE HIV-POZITIVAJ MALSANULOJ EN HUNGARIO

PONGOR Vince, BARCZI Szilvia, BESENYEI Gabriella

Semmelweis University, Department of Public Health Prof. Dr. CSEH Károly

La timo je stigmato kaj diskriminacio povas redukti la akceptadon de la terapio, krome ĝi povas reteni multajn homojn de partopreno en memvolaj eblecoj de la filtroekzameno. Per redukto de la stigmato kaj diskriminacio ni povas esti kapablaj por restrikti la rapidecon de la epidemio. Por efektivigi konvenajn disponojn oni devas revui la mem-taksitan stigmaton de la malsanuloj.

La celo de nia esploro estis revui helpe de stigmato-skalo laŭ Berger la mem-taksitan stigmaton de la HIV-pozitivaj malsanuloj. La skalo konsistas el unu ĉefskalo kaj el la sekvaj kvar subskaloj: personigita stigmato-skalo, skalo mezuranta pretecon al publikigo, skalo de negativa mempritakso kaj skalo mezuranta la socian sintenon. Krome ni volintus pritaksi la konojn koneksajn kun la disvastiĝo de HIV. Laŭ nia hipotezo la pli bonaj konoj rezultigas pli malaltan poentonombron atingotan sur la stigmato-skalo,

Komparante kun aliaj studoj ni trovis, ke taksita stigmato de la hungaraj, HIV-pozitivaj malsanuloj postrestas de la cetera populacio. Samtempe oni devas trakti la rezultojn kun rezervo, ĉar nia samplo estas malgranda, respektive la elektitaj populacioj grandmezure diferencis koncerne sian tavoligitan stigmaton. Interesamaniere ni trovis nenian rilaton inter la konoj koneksaj kun HIV kaj la poentonombroj atingitaj sur la skalo, sed pro la kaŭzoj frue menciitaj oni devas trakti ankaŭ tiujn ĉi rezultojn kun rezervo.

La rezultoj en si mem ne estas tiel gravaj, kiel tiu rolo, kiun ili povas plenumi en mezurado de rezulteco de la instruaj programoj, respektive en tiu de longdistancaj ŝanĝoj okazantaj en la sintenoj.

SKIN CANCER SCREENING IN SOUTH-WEST HUNGARY
FILTROEKZAMENADO DE HAŬTKANCERO EN SUD-OKCIDENTA HUNGARIO

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Inter la jaroj 2007 kaj 2012 en la sud-transdanubia regiono de Hungario funkciis kompleksa, moviĝanta filtroprogramo, kies parto estis – apud pluraj fakterenoj – ankaŭ la filtroekzamenado de haŭtkancero. La regiono estas ekonomie en malavantaĝa situacio. La filtranta taĉmento vizitis proksimume 30 setlejojn dum pli ol 100 filtrotagoj. La aŭtoroj konigas siajn dermatologiajn rezultojn akiritajn dum la filtroekzamenadoj. Apud pluraj elfiltritaj melanomoj kaj ne-melanomaj haŭttumoroj la partoprenantoj sin anoncis grandnombre kun ceteraj haŭtmalsanoj. En la fono povas esti la deziro, ke la malsanuloj ŝatus veni al dermatologo sen tio, ke ili devus veturi en la urbon.

STUDY ON THE CAUSES OF LATE INCLUSION OF WOMEN IN THE SPORTS OF ROWING
STUDO PRI REMANTAJ VIRINOJ – SPORTMEDICINAJ KAŬZOJ DE MALRAPIDA DISVASTIĜO DE LA VIRINA KONKURSREMADO

ALLIQUANDER Anna

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La celo de mia esploro estis prezenti la kaŭzojn de malrapida disvastiĝo de la virina konkursremado, uzante kiel specimenaron proksimume sesdek volumojn de la heredaĵo de Gusztáv Götz estanta en sporthistoria kolekto de la Hungara Remista Asocio. Esplorante en la kongresaj raportoj, deklaroj de naciaj asocioj, remisthistoriaj artikoloj kaj sportmedicinaj skribaĵoj ni trovas, ke la internacia remista socio estis interdividita, grandaj diferencoj doniĝis sur tereno de la sporthistoriaj tradicioj, kaj en la diversaj landoj estis diversa ankaŭ la prijuĝo de la efiko de remado al la virina sano.

FIT-TEST: INTERDISCIPLINARY R&D PROJECT FOR A HEALTHIER GENERATION
FIT-TEST: INTERDISCIPLINA PROJEKTO K&F POR PLI SANA GENERACIO

Katalin HAVASI, Tamás GAIZER, Stefánia BORDA, Márta KATONA

Enkonduko

Nia celo estas prilabori facile efektivigeblan kaj bone reprodukteblan metodikon sub nomo FIT-TEST, por pritaksi la trejnitecon kaj sanon. Tiu ĉi metodiko certigas informon pri fizika harditeco, evoluo, korpaj proporcioj kaj sanstato de la lerneja aĝogrupo, kaj surbaze de tiuj ĝi donas konsilon al sana vivmaniero. Nia plua celo estas rekono kaj konvena kuracado de kaŝitaj kaj komenciĝantaj malsanoj.

Metodiko

Per nova alproksimigo, en ilia natura medio, dum gimnastika studhoro ni submetis al ŝarĝa ekzameno 6-19-jaraĝajn lernantojn. Ni ekzamenis la tutan lernejan loĝantaron de mezgrada, hungara urbo Hódmezővásárhely. Proksimume 30.000 mezurserioj enhavas la mezuritajn valorojn de pulso kaj sangopremo antaŭ la ŝarĝo (kaj post 1; 5; kaj 10 minutoj), la rapidecon de kurado, la muskolforton kaj elastecon, la korpomason, altecon kaj rondmezuron de la geknaboj. Ni mezuris ankaŭ la oksigeno-saturitecon kaj en certaj kazoj ankaŭ la spiran pintofluon post la ŝarĝo.

Rezultoj

83 %-j de la lernantoj atingis la pulsonombron rekomenditan laŭ la aĝo (ĉe 11 %-j la pulso restis sub ĝi, ĉe 8 %-j la pulso troe leviĝis). Post 10 minutoj la trankviliĝo de la pulso kaj sangopremo montris malsaman tendencon. Nur ĉe 4,5 %-j de la lernantoj reiras la pulso al la elira valoro, aŭ sub tion, okaze de la sangopremo tiu ĉi datumo estas pli ol 83 %-j. Tio montras, ke eĉ la fizika ŝarĝo juĝita tro granda surbaze de la pulso havas tujan, bonan efikon al la sangopremo. Dum la ŝarĝa testo la obezaj infanoj komence havis pli grandajn pulso- kaj sangopremo-valorojn, sed tiuj malpli leviĝis ol ĉe la normalpezaj aŭ maldikaj geknaboj. Dum la trankviliĝo ilia sangopremo pli, ilia pulso malpli reduktiĝis, ol tiuj de la aliaj.

Ĉiuj infanoj, respektive ilia familio ricevas siajn analizitajn rezultojn kune kun vivgvidaj kaj kuracistaj konsiloj, helpe de interreta aplikado tiucele evoluigita.

Signifo

La prilaborado de nova sentiva, filtroekzamena metodo estas grava por rekoni la kaŝitan hipertension, prehipertension, respektive la lernantojn apartenantajn en risko-grupon.

Konkludo

La sporto, eĉ se ĝi estas troa fizika ŝarĝo, ene de minutoj havas bonan efikon al la sangopremo, ne nur ĝia longdaŭra efiko estas pruvebla. Tiu ĉi efiko estas pli grandmezura, do ankaŭ la atendebla avantaĝo estas pli signifa ĉe obezaj lernantoj, kaj ĉe tiuj, kiuj havas pli altan sangopremon.

HEALTH STATUS AND BEHAVIOUR OF THE ELDERLY ROMANI POPULATION
SANSTATO KAJ SANKONDUTO DE MALJUNA ROMAA LOĜANTARO

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La sanstato de romaa loĝantaro estas malbona, ilia sankonduto estas malfavora. Por plibonigi tiujn ĉi faktojn estas bezonata enkonduki novajn, sociokulture adaptitajn programojn, tial ni kreis sanklubo-reton por pli ol du mil, maljunaj, romaaj homoj. Antaŭ la programo okazis enketila konstato pri la sanstato kaj sankonduto, dum kiu ni mezuris ankaŭ sangopremon kaj korpomaso-indekson. Surbaze de memkonfeso ni difinis subgrupojn (hungaraj, beaŝaj kaj vlah-ciganoj).

Entute 1700 personoj respondis la demandojn. Plimulto de la romaoj vivis en vilaĝoj, ilia decida plimulto ne havis 8-klasan, bazlernejan instruitecon. La enspezo de ilia mastrumado por unu persono estis treege malalta. Ilia meznombra aĝo estis 66 jaroj. 1498 personoj deklaris pri siaj konataj malsanoj. Signifa diferenco estis inter la seksoj respektive grupoj laŭ la nombro de konfesitaj malsanoj. La viroj meznombre 5, la virinoj 9 malsanojn menciis. La hungaraj ciganoj raportis pri pli malmultaj malsanoj. Ili menciis plej ofte la altan sangopremon, tial ni okupiĝas detale pri ĝi.

Ni aplikis dunomialan, regresan analizon, konsiderante la enspezon, aĝon, sekson, instruitecon, la tipon de la setlejo kaj apartenon al subgrupo. Ne-diagnozita hipertensio evidentiĝis en signife pli malgranda proporcio en rondo de tiuj, kiuj havas bazlernejan instruitecon, kaj pli malgranda proporcio inter la virinoj, respektive en pli granda proporcio en rondo de beaŝaj ciganoj. En 22,9 %-j de la loĝantaro evidentiĝis ne-diagnozita hipertensio. La viroj respektive la beaŝaj ciganoj en pli malgranda proporcio ricevis farmakoterapion. Per konstato de riskofaktoroj ni povas kreskigi la efikecon de kulture adaptitaj sanedukaj programoj.

BATTHYÁNY-STRATTMANN, LÁSZLÓ, PRINCO DE NÉMETUJVÁR (Dunakiliti, 28.okt. 1870 − 22.jan.1930)

Endre DUDICH

László naskiĝis la 28-an de oktobro 1870 en vilaĝo Dunakiliti, Lia patro Jozefo estis estro de ĉefdepartemento (főispán) de Moson. Li studis agronomion, ekonomion, kemion kaj astronomion en la universitato de Vieno (1893-1896). Li fariĝis doktoro de filozofio kaj edziĝis al la grafino Maria Tereza Coreth zu Coredo und Starkenberg. Ili havis 13 infanojn

László iĝis Dr med.univ. (ĝenerala kuracisto) en la jaro 1900. Li ekzameniĝis unue pri kirurgio kaj akuŝologio, kaj en 1906 iĝis oftalmologo (fak-kuracisto pri okulmalsanoj).

El sia patra heredaĵo László en 1901 estigis hospitalon por la malriĉuloj, kun 20 (poste 30) litoj, en vilaĝo Köpcsény /Kittsee. Jam en la sekvinta jaro la hospitalo registris pli ol 6.000 ambulantajn pacientojn kaj preskaŭ 500 operaciojn faritajn.

La vivon de la familio karakterizis la Kriston imitanta sindona amo en strikte organizita kadro.

En la jaro 1915. László heredis la latifundion (grandbienon) de Körmend, la duoblan familinomon kaj la titolon de princo. Li devis transloĝiĝi al la kastelo de Körmend, kaj tie li establis sian duan malsanulejon. Oni ofertis al li universitatan katedron, sed li rifuzis..

Dum la mondmilito li servis kiel distrikta kuracisto de tri vilaĝoj (Pama, Edelsthal, Kittsee

En tiu regiono kunvivis pace pluraj etnoj. Kun siaj pacientoj, se necese, László parolis ankaŭ slovake aŭ kroate. Li tre facile eklernis lingvojnLi sentis sin bone en familia rondo, sed kiel eble evitis la „altan societon", tamen li plenumis siajn devojn.. Pli ol modesta, li estis humila, precipe rilate al la eklezio, Malĝentilan aŭ obscenan paroladon li ne toleris.

Li estis membro de tri kavaliraj ordenoj, dumviva ĉefdepartement-estro, membro de la Alta Ĉambro de la Nacia Asembleo, honora membro de la Hungara Akademio de Sciencoj (1917) ktp.Kiam en 1918 la Aŭstria-hungara Monarĥio kolapsis, László kun sia tuta familio translogiĝis al Vieno, poste en Svislandon, por eskapi la revolucion.. Sed jam en 1919, tuj post la falo de la sovetrespubliko, ili returnis al Körmend. Li estis senkondiĉe fidela al la reĝo, eĉ kiam Karlo la 4-a, la lasta rego de Hungario, devis forlasi la tronon en 1921.

La packontrakto de Trianon (4 junio 1920) tranĉis la Batthyány grandbienon je tri partoj. Ekestis la absurda, preskaŭ komika situacio ke la vilaĝo mem apartenis al la Aŭstria Respubliko, la fervoja stacidomo al la nove kreita Ĉeĥoslovakioo, kaj la agroj al la senreĝa Hungaria Regno.

En septembro 1928 fakkuracistoj en Vieno konstatis, ke d-ro Batthyány havas kanceron de la urina veziko. La 27-an de novembro ili operaciisis lin, sed vane. Li heroe toleris la suferon, dirante:„Mi volas antaŭ la tuta mondo danki al Dio pro la sufero, kaj peti lin ke li donu plu, ĉar tio estas bona kuracilo por mia animo kaj bona ilo por helpi aliulojn."

Li forpasis la 22-an de januaro 1931, viena sanatorio La 23-an de marto 2003 en Romo papo Johano Paŭlo la 2-a deklaris d-ron László Batthyány-Strattmann „beatulo." Lia festotago estas la 22-a de januaro.

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