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ABSTRACTS

OF THE

SECOND BLACK SEA SYMPOSIUM
FOR YOUNG SCIENTISTS IN BIOMEDICINE

March 27-30, 2014, Varna, Bulgaria

The event is organised in cooperation with the Bulgarian Ministry of Education and Science

Varna, 2014
PROGRAMME

27.03.2014  THURSDAY

10:00–17:00 Registration (MU-Varna lobby)
17:30–18:30 Opening Ceremony in Medical university of Varna (Second lecture hall)
20:00 Cocktail party (Captain Cook restaurant)

28.03.2014  FRIDAY

09:00–10:30  Session 1 - Session Pharmacology & Biochemistry (Second lecture hall)
1. EFFECT OF ARONIA MELANOCARPA FRUIT JUICE ON RESERPINE-INDUCED HYPOKINESIA AND OXIDATIVE STRESS IN RATS - C. Dobreva, D. Velkova, M. Eftimov, S. Valcheva-Kuzmanova
2. STUDY OF COMPOSITION OF LIPOPHILIC EXTRACT BILE ANIMALS - A. Stremoukhov, D. Barsuk
3. STUDY OF COMPOSITION OF BEARBERRY LEAVES VOLATILE FRACTION - N. Komissarenko, T. Upyr, O. Koshevoy
4. UNCOMMON ADVERSE DRUG REACTIONS - M. Levkova, M. Eftimov, S. Valcheva-Kuzmanova
5. NEGATIVE EFFECTS OF LONG TERM VITAMIN SUPPLEMENTATION - S. Monev
6. ADDICTION MECHANISMS AND EPIDEMIOLOGY OF THE HEROIN-ADDICTED IN VARNA REGION - S. Shishkov, K. Shirokova
7. INVESTIGATION OF COMBINED THERAPY WITH CONVENTIONAL AND HERBAL DRUGS FOR ASTHMA TREATMENT - T. Topalova, S. Georgieva, K. Nedeva
8. BIOLOGICAL EFFECTS OF SIDERITIS SCARDICA (MOUNTAIN TEA) - D. Dimov, Y. Stoyanova, M. Raikov, Y. Kiselova-Kaneva, N. Nazifova-Tasinova
9. CANNABIS SATIVA FOR SPORT AND STUDY - POSITIVE AND NEGATIVE EFFECTS - L. Dobreva, M. Marinov

10:30 – 11:00  Coffee Break

11:00 – 12:30  Session 2 - Internal medicine I (Second lecture hall)
1. A COMPARATIVE STATISTIC RESEARCH OF DIABETES TYPE II AMONG THE POPULATION OF VARNA - M. Miteva, E. Zlatanova, N. Yordanova, D. Stoyanova, K. Hristozov
2. IMAGING OF NEUROLOGICAL DISEASES USING FDG-18 PET/CT SCANNING - M. Martinez, A. Lehnhoff, N. Malik, T. Koehnke
3. CASE REPORT: 1.7-YEAR-OLD PATIENT WITH SEVERE PROTEIN ENERGY MALNUTRITION AND NEWFOUND CELIAC DISEASE - K. Ilieva, M. Georgieva
4. DOES FRUCTOSE INTAKE INCREASE THE RISK OF GESTATIONAL DIABETES - G. Naskovska, K. Peeva, D. Naydenova
5. CASE REPORT ON A CASE OF CAT SCRATCH DISEASE AT ST. MARINA UNIVERSITY HOSPITAL - VARNA - C. Shirokova, S. Shishkov, V. Bozhkov, I. Krasnaliev, N. Zgurova
6. PROTEIN ENERY MALNUTRITION- A. A. Mimoso, C. Yilmaz , I. Yahyaoglu, P. Vasilos
7. KIDNEY MANIFESTATIONS IN EXPERIMENTAL MODEL OF METABOLIC SYNDROME -
G. Stoyanov, E. Mihaylova, K. Moneva, T. Stefanova, K. Bratoeva

8. HUTCHISON-GILFORD PROGERIA SYNDROME - CASE REPORT - S. Morfov,
M. Hachmerian, L. Angelova

9. HEALTHCARE AND MEDICAL METHODS OF TREATMENTS FOR CHILDREN WITH
WILLIAMS BEUREN SYNDROME - D. Tsocheva, H. Nikov, N. Manolova, P. Petkova, C. Naneva,
D. Konstantinova

12:30 – 13:45  Lunch break

13:45 – 14:45  Poster session 1- Internal medicine
1. PATIENT WITH UNKNOWN DIAGNOSIS - R. Pancheva, V. Iotova
2. HOW VARIOUS STRESSORS AFFECT CORE TEMPERATURE AND NOCICEPTION IN RATS:
   A COMPARATIVE STUDY - M. Ereva, I. Ristem, B. Maksimova, R. Hadjiolova, E. Dzhambazova
3. EFFECT OF KYOTORPHIN NEUROPEPTIDE ON STRESS-INDUCED ANALGESIA - I. Ristem,
   M. Peshevska, R. Hadjiolova, L. Malinova, B. Landzhov, E. Dzhambazova
4. THE KYOTORPHIN NEUROPEPTIDE AND ITS ANTI-STRESSOR EFFECT - M. Peshevska,
   M. Ereva, R. Hadjiolova, E. Dzambazova
5. DEEP VENOUS THROMBOSIS IN CHILD - P. Petrov, L. Marinov, K. Ganeva
6. TOLOSA–HUNT SYNDROME ENDOCRINOLOGICAL EFFECTS - M. Agatova, E. Zlatanova,
   R. Angelova, K. Christozov
7. RETINOPATHY OF PREMATURITY – HOW CAN WE MANAGE WITHOUT AVASTIN (CASE
   REPORT) - M. Radeva, Y. Stoyanova, Ch. Grupcheva
8. THE ROLE OF SORBITOL PATHWAY IN DIABETIC CATARACT AND ALDOSE REDUCTASE
   INHIBITORS AS A POTENTIAL TREATMENT – A REVIEW - M. Radeva, Y. Stoyanova,
   B. Andonov, T. Kalinov, C. Grupcheva
9. CASE REPORT OF A PATIENT WITH PRIMARY HYPERPARATHYROIDISM. CONSERVATIVE
   OR SURGICAL TREATMENT? - D. Stoyanova, E. Zlatanova, A. Kerensky, K. Christosov
10. BECKWITH-WIEDEMANN SYNDROME - S. Stoycheva, G. Georgiev, T. Topalova, I. Todorov,
    M. Dimitrova, D. Konstantinova
11. NEONATAL TETANUS-CASE REPORT- S. El Shemeri, E. Zaharieva, M. Yordanova, R.
    Angelova, K. Kiryazov
12. BARTTER'S SYNDROME - CASE REPORT- M. Dimitrova, G. Georgiev, S. Stoycheva,
    I. Teodorova, V. Ikonomov
13. COMPLETE RECOVERY AFTER INGESTION OF LETHAL DOSE OF METHANOL -
    K. Tsochev, S. El Shemyr, M. Radeva, O. Kotova, M. Iordanova, D. Konstantinova, K. Kiryazov
14. CONNECTION BETWEEN LIFESTYLE AND PATHOPHYSIOLOGICAL MECHANISM OF
    METABOLIC SYNDROME - T. Vasileva, S. Morfov, K. Bachvarova, H. Rankov, K. Bratoeva
15. ACUTE RESPIRATORY DISTRESS SYNDROME IN A PEDIATRIC PATIENT- B. Petrov,
    S. El Shemer, E. Zaharieva, L. Todorova, Y. Dimova, K. Kiryazov

14:45 – 15:00  Coffee Break
15:00 – 16:00  **Key Note Lecture**  
TRANSCRIPTIONAL REGULATION AND ROLE OF CHOLESTEROL TRANSPORT IN ALZHEIMER`S DISEASE. HOW MUCH DO WE KNOW ABOUT ABCA1 AND APOE 10 YEARS LATER? - Iliya Lefterov, University of Pittsburgh, USA (Second lecture hall)

16:00 – 17:30  **Workshops**

29.03.2014  **SATURDAY**

09:00 – 10:00  **Key Note Lecture**  
GHRELIN: A BRIDGE BETWEEN AGING, METABOLISM AND NEURODEGENERATIVE DISORDERS - Irina Stoyanova, University of Twente, The Netherlands

10:00 – 10:15  **Coffee Break**

10:15 – 11:45  **Session 3 - Internal medicine II (Second lecture hall)**
1. EYE DISEASES DEPICTED IN ART - Z. Siromahov
2. PIGMENT DISPERSION SYNDROME – DIAGNOSIS BY IN VIVO LASER CONFOCAL MICROSCOPY - T. Marinova, V. Ivancheva, V. Sheherov, C. Grupcheva
3. VISUAL PERCEPTION AND SUSCEPTIBILITY TO OPTICAL ILLUSIONS IN ALZHEIMER'S DISEASE - E. Audronytė, G. Pakulaite, V. Regelskytė, J. Kuzmickienė, G. Kaubrys
4. RESEARCH ATTITUDE, EXPERIENCE AND BARRIRS OF MEDICAL STUDENTS AT MEDICAL UNIVERSITY OF VARNA - P. Iliev, N. Sapundzhiev, V. Platikanov
5. COUMARINES - A POSSIBLE NEW GENERATION OF ANTICONVULSANT DRUGS - S. Georgieva, P. Gateva
6. IMPERFORATE HYMEN - I. Yahyaoglu, A. Augusta de Freitas, Bettencourt Mimoso, C. Yılmaz, P. Vassilos
7. CAN FOLIC ACID REDUCE THE RISK OF AUTISM? - M. Atanasova, D. Naidenova

10:15 – 11:00  **Lecture**  
3M - Demonstration of Pentamix 3 (3M ESPE) Monophase polyether material for a precise impression (Dental Faculty lecture hall)

11:00 – 12:30  **3M Workshop (Dental Faculty lecture hall)**

11.45 – 12.45  **Lunch Break**

12.45 – 13.30  **Lecture - Doctors without Borders (second lecture hall)**

13:45 – 15:00  **Session 4- Session Surgery – I (second lecture hall)**
1. SURGICAL TREATMENT OF A RUPTURED SINUS OF VALSALVA ANEURYSM INTO RIGHT VENTRICLE: CASE REPORT - V. Boshnakov, D. Todorov, P. Panayotov, M. Slavov
2. BLOOD BLISTER-LIKE ANEURYSMS - HOW TO FACE THEM? - P. Waszak, T. Szmuda, P. Słoniewski
3. RECONSTRUCTIVE SURGERY OF THE HEAD WITH LOCAL AXIAL FLAP - B. Yosifov, L. Todorova, A. Yancheva, Y. Dimova, B. Petrov, Y. Zayakova

4. LAPAROSCOPIC INGUINAL HERNIA REPAIR – TRANSABDOMINAL PRE-PERITONEAL (TAPP) AND TOTALLY EXTRAPERITONEAL (TEP) TECHNIQUES - Z. Penev

5. ROBOTIC SURGERY IN OTORHINOLARYNGOLOGY, HEAD AND NECK SURGERY - T. Stefanova, E. Mihaylova, N. Sapundzhiev, A. Tonchev

15:00 – 15:45 Lecture – Medical news (Second/Third lecture hall)

16:00 – 17:30 Workshops

22:00 Social Program

30.03.2014 SUNDAY

10:00 – 11:00 Session 5 - Surgery – II (Second lecture hall)

1. MANAGEMENT OF NEAR-DROWNING VICTIMS - A. Aleksandrov, D. Lichev

2. EXOTIC CAUSE OF UPPER GASTROINTESTINAL OBSTRUCTION - RAPUNZEL SYNDROME - S. Troyanova, N. Milev, G. Gradeva, I. Plachkov, R. Madjov

3. VOMERONASAL ORGAN - OCCURRENCE IN BULGARIAN POPULATION - K. Moneva, G. Stoyanov, N. Sapundzhiev, A. Tonchev


5. APPLICATION OF 3D PRINTING TECHNOLOGY IN ENT - P. Vasilos, C. Yilmaz, A. A. Mimoso, I. Yahyaoglu

11:00 – 12:00 Poster Session 2

1. REVIEW OF MECHANICAL PROSTHETIC VALVES IN CLINICAL PRACTICE - D. Todorov, V. Boshnakov, P. Panayotov, M. Slavov

2. BOXER’S FRACTURE: THE ADVANTAGES OF PERCUTANEOUS TRANSVERSE K-WIRE PINNING - I. Marcheva, M. Adilov

3. PSEUDOTUMOR CEREBRI IN PREGNANCY - E. Zaharieva, V. Bozhkov, R. Ivanova, S. El Shemeris, B. Petrov, D. Handzhiev, T. Kondev

4. NURSING ROLE IN CHILDREN WITH DISEASES OF THE DIGESTIVE SYSTEM - O. Kostov, A. Havalova, D. Hristova

5. BEHAVIOR OF THE NURSE IN THE TREATMENT OF ADDISON’S DISEASE - A. Havalova, O. Kostov


7. THE INVOLVEMENT OF NURSES IN THE PREVENTION AND CARE IN THE TREATMENT OF AFFECTIVE DISORDERS - A. Havalova, O. Kostov

8. DOXORUBICIN AND CARDIOTOXICITY - L. Grigorov, S. Papanov, E. Petkova

9. EFFECT OF SOCIAL ISOLATION ON BEHAVIOR AND OXIDATIVE STRESS IN RATS - M. Eftimov, A. Georgieva, S. Valcheva-Kuzmanova
10. ANTIMICROBIAL PROPERTIES OF ALLIUM SATIVUM (GARLIC): A REVIEW OF THE RECENT RESEARCH - Y. Stoyanova, M. Radeva, T. Kalinov, D. Dimov, M. Pasheva, M. Nashar


13. PERIODONTAL TREATMENT WITH LASER APPLICATION - D. Dimov, A. Kosteljanchik

14. ADVANCED COMBINED PROSTHODONTICS WITH BAS SYSTEM - I. Dimitrov, M. Simov

12:00 – 13:00  Lunch Break

13:00 - 16:00  Closing Ceremony (second lecture hall)

WORKSHOPS:

1. Obstetrics and Gynecology
2. Echography
3. Cardiovascular Surgery
4. Dental 3M
5. Pharmacy
TRANSCRIPTIONAL REGULATION AND ROLE OF 
CHOLESTEROL TRANSPORT IN ALZHEIMER’S DISEASE. 
HOW MUCH DO WE KNOW ABOUT ABCA1 AND APOE 
10 YEARS LATER?

Iliya Lefterov

Department of environmental and occupational health, University of Pittsburgh

Alzheimer’s disease is a slowly progressing neurodegenerative disorder with enormous impact on the patients’ family, caregivers and society. Despite the intense research in the last 20 years, and a significant progress in our understanding of the fundamental regulatory and biochemical pathways of the disease as well as of the pathophysiological abnormalities detectable in vivo by biomarkers, early diagnosis of Alzheimer’s disease at a time when successful therapeutic interventions could be initiated is still not possible. While age remains the most prominent risk factor to develop Late Onset AD, there are certainly other environmental and genetic risks, some of them associated with the lipid metabolism in periphery and CNS. ATP-binding cassette transporter A1 (ABCA1) is an essential regulator of High Density Lipoproteins and Reverse Cholesterol Transport – a role that determines its importance for atherosclerosis. Over the last 10 years studies have provided convincing evidence that ABCA1, via its control of APOE lipidation, has also a role in AD. A series of reports have revealed a significant impact of ABCA1 on Aβ deposition and clearance, as well as an association of common and rare ABCA1 gene variants with the risk for AD. Since APOE is the major genetic risk factor for late onset AD, the regulation of APOE level or its functionality by ABCA1 may prove significant for AD pathogenesis. This lecture will summarize the results of the recent research on ABCA1, particularly relevant to AD and its therapeutic implications.

GHRELIN: A BRIDGE BETWEEN AGING, METABOLISM 
AND NEURODEGENERATIVE DISORDERS

Irina Stoyanova

Biomedical signals and systems, Faculty of electrical engineering, Mathematics and computer sciences, Institute for biomedical engineering and technical medicine MIRA, University of Twente, Enschede, the Netherlands

Along with the increase in life expectancy over the last century comes the increased risk for development of age-related disorders, including metabolic and neurodegenerative diseases such as Alzheimer’s, Parkinson’s, and Huntington’s disease. If we look at the pathogenesis of the perturbed metabolism or neurodegeneration, we can see the presence of a signalling molecule – ghrelin, with a remarkably wide and complex spectrum of functions and biological effects on neurons. Ghrelin regulates lipid and glucose metabolism, it influences mitochondrial respiration and shows neuroprotective effect. Additionally, ghrelin takes part in higher brain functions such as sleep-wake state, learning and memory consolidation, the cellular basis of which is related to synaptic efficacy and plasticity. This review is an attempt to present ghrelin as part of molecular regulatory interface involving energy metabolism, neuroendocrine and neurodegenerative processes, which makes it an attractive target for development of new pharmacological approaches for management of disorders, in which cell protection and recruitment of new neurons or synapses are needed.
EFFECT OF ARONIA MELANOCARPA FRUIT JUICE ON RESERPINE-INDUCED HYPOKINESIA AND OXIDATIVE STRESS IN RATS

C. Dobreva, D. Velkova, M. Eftimov, S. Valcheva-Kuzmanova
Medical University of Varna, Bulgaria

Reserpine can cause hypokinesia due to depletion of monoamine stores in the central nervous system.

Purpose: The aim of the present study was to investigate in the effects of Aronia melanocarpa fruit juice (AMFJ) on reserpine-induced hypokinesia and oxidative stress in male Wistar rats.

Material and methods: Reserpine was applied as a single intraperitoneal dose of 6 mg/kg (as a solution in 5% DMSO, 2 ml/kg) and comparisons were made with the control group injected intraperitoneally with 5% DMSO (2 ml/kg). AMFJ was applied at doses of 2.5 ml/kg, 5 ml/kg and 10 ml/kg three times (on the 0, 19th and 23rd hour) after reserpine administration while the control group received distilled water (10 ml/kg) at the same time points. The open field test (OFT) was used for investigation of locomotor activity. Oxidative stress was evaluated by the concentration of thiobarbituric acid reacting substances (TBARS) in rat brain.

Results: Reserpine induced a significant reduction (p<0.001) in both horizontal and vertical locomotor activity of rats. Brain TBARS in reserpine-treated animals were significantly higher (p<0.05) in comparison with those of the control rats which confirms that animals treated with reserpine were exposed to oxidative stress. AMFJ caused a tendency to increase locomotor activity of reserpine-treated rats. The concentration of TBARS in the brains of rats treated with AMFJ before reserpine did not differ significantly from the control level.

Conclusion: AMFJ prevented reserpine-induced oxidative stress and partly antagonized the effect of reserpine on locomotor activity of rats.

Keywords: Aronia melanocarpa, Reserpine, hypokinesia, oxidative stress, rats

STUDY OF COMPOSITION OF LIPOPHILIC EXTRACT BILE ANIMALS

Aleksandr Stremoukhov, Denis Barsuk
National university of Pharmacy, Ukraine

Introduction. The therapeutic use of bile has been recognized since ancient times. Bile acids and their derivatives can act as absorption promoters where they have the potential to aid intestinal, transdermal, ocular, nasal, rectal and pulmonary absorption.

Aim of the study. To study the bile acids composition of lipophilic extract of bile animal.

Materials and methods. The extract was obtained by exhaustive extraction of bile animals with reagent “Folcha”, animals material had been harvested in Kharkiv region, Ukraine, in 2012. Distribution and registration of bile acids was carried out on the gas chromatography “Chrom-5” on a metal column 2.6 m long, filled with sorbent “Chromaton-super” 5% oV-17. Assaying free bile acids was carried out isothermally at 200 °C and heated with a flame ionization detector - 250 °C. The velocity of the carrier gas of high purity nitrogen: - 50 ml/min, hydrogen - 30 ml/min, air - 300 ml/min. The quantitative content of the compounds was calculated by the ratio of the peak component area to the sum of the all peaks areas in the chromatogram (method of normalization).

Results. By two-dimensional chromatography in the lipophilic complex of bile revealed 75 substances which by chromatographic mobility, fluorescence under UV-light and the colouring with specific reagents were referred to steroids (46), phospholipids (13), porphyrins (16). Quantitatively identified the following steroids cholesterol, cholic, ursodeoxycholic, deoxycholic, chenodeoxycholic and lithocholic acid.

Conclusions. Identified bile acids of lipophilic extract have valuable therapeutic activity and further in-depth research.

Keywords: bile acids, bile, lipophilic extract
STUDY OF COMPOSITION OF BEARBERRY LEAVES
VOLATILE FRACTION
N. A. Komissarenko, T. V. Upyr, O. N. Koshevoy
National university of Pharmacy, Ukraine

Introduction: Nowadays interest to Phytotherapy increased considerably as well as microorganisms are resistant to many antibiotics which have side effects and fairly high price. Bearberry is the prospective plant for creation a new uroseptic phyto medicine which has large raw material resource in Ukraine.

Aim: The plant has significant odor, whereas chemical composition of phenolic compounds is mainly described in literature. That is why the aim of our work was investigation of chemical composition of volatile compounds of bearberry.

Methods: The study was performed on a gas chromatograph (GC) Agilent Technology 6890 with mass spectrometric (MS) detector 5973. The identification of compounds was performed by comparison of mass spectra of the chromatographic peak with the mass spectra of reference compounds identified with high probability by recognition program in the spectra databases.

The quantitative content of the compounds was calculated by the ratio of the peak component area to the sum of all peaks areas in the chromatogram (method of normalization).

Results: It was found 45 compounds, including such compounds have been identified as camphor octane, hexanal, nonanal, 2-decinal, phytol, ethyllinoleat, 4,8,12,16-tetramethylhepta-decan-4-olid, nonakozan, pentakozan, pentadekan, untryakontan, trytryakontan, nor-olean-12-ene. The predominant substances are nor-olean-12-ene, untryakontan, nonakozan, phytol.

Conclusions: Presence of identified volatile compounds may enhance the uroseptic effect of raw material.

Keywords: bearberry, uroseptic effect

UNCOMMON ADVERSE DRUG REACTIONS
Mariya Levkova, Miroslav Eftimov, Stefka Valcheva-Kuzmanova
Medical University of Varna, Bulgaria

The purpose of this paper is to report uncommon and bizarre adverse reactions to some commonly used drugs which can be missed by the physician and are alarming for the patient.

Common drug side effects are well known but some medications cause peculiar reactions. The contact of urine with bleach in the toilet bowl may result in an odd color which is troublesome for the patient as it may vary from orange (after the administration of Doxorubicin) to black (after Metyldopa). If the doctor is not aware of this reaction he can easily mistake it with worsening of the patient’s signs. Patients using Sildenafil may experience colored vision and this symptom often misleads the doctor. Some drugs like Bimatoprost may cause permanent changes in the iris color. The skin might be severely affected by certain drugs causing extremely dangerous phototoxicity (Levofloxacin). Peeling of the skin can occur during the administration of the anticancer drug Capecitabine. Ropinirole, a drug used in the treatment of parkinsonism, may cause unusual sexual and gambling-related urges which sometimes cannot be controlled by the patient. Some medications can affect the functions of the central nervous system and thus lead to hallucinations (Pramipexole) and vivid dreams (Varenicline).

In conclusion, physicians should be aware not only of the common adverse drug reactions but also of the rare ones which are troublesome for the patient and are sometimes a reason for cessation of treatment.

Keywords: uncommon, drug, adverse, reactions
NEGATIVE EFFECTS OF LONG TERM VITAMIN SUPPLEMENTATION

Stoyan Monev
Medical University of Varna, Bulgaria

The public opinion is mainly dominated by a recommendation for an additional alimental supplementation with a general combination of vitamins to the regular nutrition in order to achieve the optimal essential vitamin taking levels. This recommendation concerns almost all of the patient target groups - children, teenagers, mothers, pensioners, students, athletes, workers, etc.

This research compared the 100 German language articles with the topic “vitamin taking” [Vitamineinnahme], published on the internet that have the highest google-ranking with the official studies concerning the risks of additional long term vitamin supplementation. The goal of this research was to determine whether there is an adequate accessible volume of qualitative information about the risks due to the additional long term non-alimental vitamin taking or not.

This research discovered that the proven risks, connected with the continuous taking of additional non-alimental vitamin supplements, are not generally presented on a comparable way with the potential benefits of this additional supplementation. The public opinion is not quantitative and qualitative informed about the potential health dangers, coming from the continuous long term non-alimental vitamin supplementation. The articles concerning “vitamin taking” do not inform the general public for the statistical increase of several diseases in patient groups, declared to take continuously long term vitamin supplements as an addition to their diet.

The analysis discovered that the general public opinion in the German speaking countries is dominated from recommendations for an additional continuous vitamin taking. There is a lack of information, concerning some potential health risks. Information about vitamins is mainly one-sided.

Keywords: vitamins, overdosage, non-alimental, higher risk

ADDICTION MECHANISMS AND EPIDEMIOLOGY OF THE HEROIN-ADDICTED IN VARNA REGION

Savi Shishkov, Katerina Shirokova
Medical University of Varna, Bulgaria

The topic of addiction has been brought up some time ago and remains a main problem to the modern society. Coping with this issue requires discovering the mechanism of addition to psychoactive substances, its diagnostics and later treatment.

The main subject of our research is to understand the process leading to addiction on subcellular level. Mainly, it narrows down to dopamine release from specific neurons in the human brain and the altered receptors’ activity due to substance use.

In order to complete our investigation, we researched the number of addicts, registered in the psychiatric department at St. Marina University Hospital. The number for Varna district is 5623- registered drug users, among them 217 (206 – men and 16 – women) have received professional help in the department in 2013. A large percentage- 91% among them were heroin dependent.

This proves that the heroin addiction is one of the most widely used psychoactive substances therefore its addiction mechanism presents an interest. Such is the conclusion of the United Nations Office on Drugs and Crime (UNODC). According to the organization 12 per cent of annual users develop dependency and become problem drug users. Despite the fact that drug-dependent persons receive treatment, addiction remains a health and a social problem worldwide.

Keywords: addiction mechanism, heroin, epidemiology
INVESTIGATION OF COMBINED THERAPY WITH
CONVENTIONAL AND HERBAL DRUGS FOR ASTHMA
TREATMENT
Tanya Topalova, Svetlana Georgieva, Katya Nedeva
Medical University of Varna, Bulgaria

Asthma is one of the most common chronic diseases in modern society and there is increasing evidence to suggest that its incidence and severity are growing. That is the reason why many patients with chronic allergic conditions seek complementary and alternative medicine with medicinal plants. Medicinal plants are rich source of therapeutic agents for prevention of many diseases and one of them is asthma. Herbal preparations have been cited as the third most popular complementary treatment modality by asthma sufferers. In the present article an attempt has been made to review antiasthmatic medicinal plants, to show which are their active constituents as well as to predict the possible mechanism of their action and to propose a combined therapy with conventional drugs and herbal drugs.

Keywords: Asthma, combined therapy, conventional and herbal drugs

BIOLOGICAL EFFECTS OF SIDERITIS SCARDICA
(MOUNTAIN TEA)
Diyan Dimov, Yoanna Stoyanova, Miroslav Raikov, Yoanna Kiselova-Kaneva, Neshe Nazifova-Tasinova
Medical University of Varna, Bulgaria

BACKGROUND: Sideritis scardica (mountain tea) is an endemic plant in the Balkans. It is prepared as a tea infusion and used in traditional Bulgarian medicine for wide range of disturbances due to its diverse content. It is labeled as a "panacea for most illnesses".

MATERIALS AND METHODS: The present review is based on information collected from scientific journals and electronic research about reported data on phytochemical studies, biological activity and traditional uses of mountain tea. Sources include PubMed and ScienceDirect.

RESULTS: Among the main biologically active substances of mountain tea are flavonoids, phenylethanoids, diterpenoids, essential oils and numerous microelements. These substances contribute to a broad range of activities of plant’s extracts like anti-microbial, anti-inflammatory, anti-oxidative, gastroprotective, anti-glioma, anti-anemic properties and therefore applied against gastrointestinal complaints, lung emphysema, bronchitis, etc. According to recent research herb’s anti-oxidant capacity is close to that of green tea and exerts protection from oxidative stress by restoring GSH/GSSG ratio and increasing the gene expression of intracellular antioxidants. The plant is also proven to prevent cancer development.

CONCLUSIONS: Sideritis scardica has become very popular and widely used herb in Europe. Although reasons for some ethnobotanical uses have been proven via in vitro experiments, further studies on the properties of individual compounds responsible for the pharmacological effects and their mechanisms of action are necessary. In addition, the toxicity and side effects from the use of Sideritis scardica as well as clinical trials need attention.

Keywords: Sideritis scardica, antioxidant, anti-microbial, anti-inflammatory, anti-cancer.
CANNABIS SATIVA FOR SPORT AND STUDY - POSITIVE AND NEGATIVE EFFECTS

Liliya Dobreva, Miroslav Marinov
Medical University of Varna, Bulgaria

For the longest time marijuana (Cannabis sativa) was used as an opiate. Recent research however, shed light on some of its positive effects.

The aim of this publication is to prove that tetrahydrocannabinoid (THC) aids the learning process via its positive effects on the cerebral blood flow and stress reduction; THC however shows negative side-effects in prolonged use. The search shows where the golden mean is.

Nowadays in the Medical practice Cannabis has the potential to be used as an antidepressant; a tool to reduce stress, increase appetite or ease pain. Many people and are afraid to become addicted others already are.

The idea is- to consider a question. The cannabionoids release the mind and helps concentration in short terms use. Alongside other substances in Cannabis sativa they cloud the judgement of regular users. With regulated application in both length and quantity it can help express emotions, ease verbal communication but prologue use diminish the positive effects.

Research methods include a poll amongst university students and consultation with experienced specialists in the field of Neurology and Neurobiology. Abstract includes the resume of the results in a study, which was undertaken at the University Medical Center Utrecht in the Netherlands and published in the European Neuropsychopharmacology journal. The study deduced that smoking marijuana weekly in the course of a year improves the subject’s verbal communication and emotional expression. 12% from the polled bulgarian students admit to having negative side-effects of prolonged smoking of marijuana.

In short term use with minimum quantity and with moderate tasks in academics or physical activity, THC can yield a positive effect. Pure and unrefined Cannabis sativa isn’t completely safe for use and thus isn’t a good choice for a prologue and intense physical and/or learning “booster”. Misuse of this substance is proven to lead to brain damage and greater danger of developing schizophrenia.

Keywords: cannabis study, sport, tetrahydrocannabinol
A COMPARATIVE STATISTIC RESEARCH OF DIABETES TYPE II AMONG THE POPULATION OF VARNA

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The aims of the statistic research are screening, prevention and prophylaxis of diabetes type 2 among the population of Varna. Diabetes is socially and economically significant illness, which has turned during the last years from epidemic to pandemic. This statistic research is unique of its kind for Bulgaria and is conducted only in Varna.

Methods: poll, biometric, measuring methods and standardization, comparison.

Materials:
- 836 tested people, 134 volunteers;
- Glucometers – 25;
- Lancets – 1000;
- Test tapes – 1000;
- Meters – 25;
- Poll blanks;
- Body Mass Index tables – 25
- Weighbridges – 5.

Informational campaign of diagnostics took place in Varna (14/11/2013). 134 volunteers tested 836 citizens by measuring their levels of blood glucose, biometric measurements and filling in their data in the polls. The following results were stated: new-found cases of diabetes – 17; prediabetes – 82. A correlation between developing diabetes and BMI was found as follows: cases of diabetes and BMI 25-30 kg/m² were 4; cases of diabetes and BMI over 30 kg/m² are 10. Prediabetic correlations were: BMI 25-30 kg/m² – 36 people; BMI over 30 kg/m² – 19 people. There were 9 cases of registered diabetics with poor control of the disease.

A statistic summary was developed showing the distribution of the rates of the measured blood glucose and BMI among a group of 836 people. In comparison to the results from the statistic research conducted in 2012, a conclusion can be made - there is a significant raise in the number of people with impaired fasting glycemia. The tested individuals that were included in some of the risk groups were consulted for a change in the diet and physical activity or they were directed to the Clinic of Endocrinology and Metabolic Diseases ("St. Marina" University Hospital – Varna).

Keywords: statistics, blood glucose levels, hyperglycemia, diabetes type 2, body mass index

IMAGING OF NEUROLOGICAL DISEASES USING FDG-18 PET/CT SCANNING

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The differential diagnosis between neurological disorders as Essential Tremor (ET), Parkinson’s Disease (PD), Lewy Body Dementia, Multiple-System Atrophy (MSA) and Huntington’s Disease (HD) is difficult on clinical grounds alone. For accurate determination, the Fluorine-18-Fluorodeoxyglucose Positron Emission Tomography and Computed Tomography are used simultaneously (FDG-PET/CT) to provide information about the location, nature and extent of the pathology.

Thirty-nine patients with neurological diseases were enrolled in this study. They were injected the Fluorine-18 substance, which is a glucose analogue and is taken up by body cells that are high users of glucose. Once the Fluorine has decayed through the body. PET allows the observation of images in vivo where the glucose activity is higher indicating the functional abnormalities and CT gives information about the structural changes and the location

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facilitating the diagnosis of the patient. The CT scan superimposed over PET scan combines these functional and anatomical reports to pinpoint the exact location of abnormal activity as well as the level and extent of that disease.

The results from the Clinic of Nuclear Medicine and Radiotherapy, “Saint Marina” University hospital Varna obtained were fifteen patients suffering from ET, fourteen PD, two LBD, three MSA and five HD.

For these patients PET/CT is the only imaging technique that can differentiate between the neurological diseases and diagnose a metabolic pattern important for directing treatment programs and is a suitable method for observing the progression of functional abnormalities.

Furthermore, it illustrates the areas of the brain responsible for movement, speech, and other critical functions for surgeons performing delicate operations on various areas of the brain.

Keywords: PET, CT, FDG-18, neurological diseases, scanning

1.7-YEAR-OLD PATIENT WITH SEVERE PROTEIN ENERGY MALNUTRITION AND NEWFOUND CELIAC DISEASE - CASE REPORT

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Purpose. This report aims to reveal some manifestations of immune-mediated enteropathy in childhood and to draw attention to the seriousness of the problem in cases where it is not diagnosed in time. It describes the case of 1.7-years-old caucasian female patient who appeared in the clinic with abdominal distension; fatigue; pale, voluminous and abnormally malodorous faeces; alternating constipation and diarrhea. The mother notes the weight loss (300 g) for the last three months despite the increased appetite of the child.

Materials and methods. The physical status established apparent age around the actual, poor general condition, height and weight below the third percentile (7500g/75.5cm), subcutaneous adipose tissue is reduced. The abdomen is soft, painless, above the rib cage, filled with a large amount of feces. The blood and acid-base survey shows: lower limit of hemoglobin, leukocytosis and compensated acidosis. Lactose intolerance and D-Xylose absorption tests are pathological.

The immune surveys for specific immunoglobulins against gliadin and transglutaminase test positive with significantly high values.

Results. All clinical studies clearly point to the diagnosis of celiac disease. The autoimmune process has persisted for several months which led to severe protein energy malnutrition and secondary lactase insufficiency. Strict gluten-free diet was prescribed for the patient at discharge.

Conclusion. Celiac disease should be considered in the differential diagnosis of malnutrition syndrome and retardation in the physical development in childhood. This far from rare disease has many serious complications that are completely preventable with timely detection and following a strict lifetime gluten-free diet.

Keywords: case report, malnutrition, celiac disease
DOES FRUCTOSE INTAKE INCREASE THE RISK OF GESTATIONAL DIABETES
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Introduction: Gestational diabetes (gestational diabetes mellitus, GDM) is a condition in which women without previously diagnosed diabetes exhibit high blood glucose levels during pregnancy. The scientists don't know what causes GDM, but they have some clues. Hormones from the placenta block the action of the mother's insulin in her body. Most women can manage their GDM with dietary changes and exercise but some women will need antidiabetic drugs. One of these dietary changes is to reduce the fructose intake, because it has basic effect on GDM. Materials and Methods: The information is summarized by the online publications from Science Direct and New England Medical Journal.

Description: The scientists have made researches about fructose and whether it can modify lipidemia in pregnant rats and produce changes in their fetuses. There are many observations of pregnant women with GDM, who are on a special healthy and unhealthy diet.

Results: Consumption of the healthy eating in pregnant women with GDM had beneficial effects on fasting plasma glucose, serum insulin levels and biomarkers of oxidative stress. Fetuses from fructose-fed mothers showed hypotriglyceridemia and a higher hepatic triglyceride content. A higher expression of genes related to lipogenesis and a lower expression of fatty acid catabolism genes were also found in fetuses from fructose-fed mothers.

Conclusions: Metabolic events during pre- and postnatal development markedly modulate metabolic diseases’ risks in later life. This phenomenon called early nutritional or metabolic programming of adult health is supported by animal experiments.

Keywords: fructose, gestational diabetes

CASE REPORT ON A CASE OF CAT SCRATCH DISEASE AT ST. MARINA UNIVERSITY HOSPITAL – VARNA
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Cat scratch disease is a bacterial disease caused by Bartonella henselae following a bite or a scratch, most commonly from a pet. The disease manifests itself in most cases as lymphadenopathy which is self-limiting in immunocompetent patients. Other common forms of the disease are the oculoglandular and the mammary. Most often manifested symptoms of the disease are fever, skin rash, headache, sore throat, hemolytic anemia. Other more rare courses the disease can take are hepatosplenic, cardiopulmonary, systemic and bacteremic cat scratch disease.

Such an uncommon case of Cat scratch disease was threated in UMHAT St. Marina, Varna. We present a case report of a 34-years old female patient with spleen abscess and cat scratch disease. She presented with fever, weight loss and splenomegaly. Later, the patient was admitted to The Second Department of Surgery and based on the results of additional clinical management, a necessary splenectomy was performed. On a histopathological study of the spleen, epitheloid cell granulomas were observed, confirming a diagnosis of cat scratch disease.

Keywords: cat scratch disease, Bartonella henselae, splenomegaly, epitheloid cell granulomas, felinosis
PROTEIN ENERGY MALNUTRITION
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Objective: According to a large set of recent data, protein-energy malnutrition is a frequent response to starvation leading to a serious worldwide problem that involves millions under 5 years of age, more commonly in low-income countries, but also includes children from large urban areas and of low socioeconomic status, children with chronic disease and those who are institutionalized.

Methods: We analyzed the clinical significance of insufficient energy and inadequate intake of many essential nutrients and its correlation with infections, multiple organ disturbance, immune deficiencies, cutaneous manifestations and mortality.

Populations that are entirely dependent on economical and food aid have suffered from nutrient deficiency disease outbreaks.

Results: Acute malnutrition may be presented as marasmus (wasting and growth failure) due to calorie and energy deficiency, kwashiorkor (nutritional edema) due to protein deficiency and marasmic kwashiorkor (when combined). Stabilization should include pediatric nutrition rehabilitation, rehydration and micronutrient supplementation.

Chronic malnutrition is represented by stunting and poor cognitive development in which interventions need to be targeted at pregnant women and to children from birth to 18 months of age improving their nutritional status.

Five million children younger than 5 years die of malnutrition yearly therefore management and follow-up are essential to decline this pathologic condition.

Conclusion: Recognizing and correcting inadequate nutrition in an early onset usually leads to a welfare recovery, although children will never reach their full growth potential. In later stages of malnutrition there is a chance of physical, intellectual disabilities and ultimately death.

Keywords: malnutrition, protein, calories, deficiency

KIDNEY MANIFESTATIONS IN EXPERIMENTAL MODEL OF METABOLIC SYNDROME
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Purpose: Metabolic syndrome (MS) is a worldwide prevalence disease that affects more than 25% of the adult population in developed countries. The latest studies show an increased incidence of chronic kidney disease in patients with MS. It is assumed that the major components of MS - obesity, insulin resistance, dyslipidemia and hypertension are linked to renal damage through the systemic release of several pro-inflammatory mediators such as uric acid (UA) and C-reactive protein (CRP). The aim of the present study was to investigate the influence of UA and CRP on renal damage in an experimental model of MS.

Methods and Materials: Male Wistar rats were used in the experiment. They were divided into two groups (n=7): control group (on a standard diet), and fructose fed (35% fructose syrup in the drinking water for 16 weeks). Body and kidneys weight, serum glucose, triglycerides, UA and CRP were determined. Kidney histopathology was observed via light microscopy.

Results: All fructose-fed rats developed obesity, hyperglycemia and hypertriglyceridemia. In parallel with significantly increase kidneys weight(p<0.05), CRP(p<0.05) and UA(p<0.05), the light microscopy showed amyloid deposits in the glomeruli, visible hydropic change (vacuolar degeneration) in the epithelial cells covering the
proximal tubules and increased eosinophilia in the distant tubules in fructose-fed rats compared with control group.

Conclusion: In conclusion, our results show that under the condition of a fructose-induced MS, UA and CRP probably induce tubulointerstitial injuries that are important for future development of chronic kidney disease.

Keywords: Kidney manifestations in metabolic syndrome

HUTCHISON-GILFORD PROGERIA SYNDROME -CASE REPORT
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Aims/Objectives: Hutchison-Gilford Progeria Syndrome (HGPS) is a rare genetic condition, characterized by an appearance of accelerated aging in children. Progeria affects approximately 1 in 4-8 million newborns. It affects both sexes equally and all races. HGPS is caused by a mutation in the gene called LMNA(1q21.1-1q21.3). The LMNA gene produces the lamin A protein which is the structural scaffolding that holds the nucleus of a cell together. The abnormal lamin A protein that causes Progeria is called progerin and it makes the nucleus unstable.

We report on a six years old girl, who has a typical phenotype: prominent eyes, a thin nose with a beaked tip, thin lips, a small chin, and protruding ears, full body alopecia, aged-looking skin, visible veins on the head.

Methods: A case report, based on information given from the relatives, clinical features, symptoms and laboratorial data.

Results: This patient is heterozygous at the junction of exon 11 and intron 11 of the LMNA gene for a variant defined as c.198+5G>C. To our knowledge this variant has not been reported in the literature. As requested only exon 11 was sequenced. No other variant were found in exon 11 of this patient’s LMNA gene.

Conclusion: Children with Progeria are genetically predisposed to premature, progressive heart disease. Death occurs almost exclusively due to widespread heart disease, the leading cause of death worldwide. As with any person suffering from heart disease, the common events for Progeria children are high blood pressure, strokes, angina (chest pain due to poor blood flow to the heart itself), enlarged heart, and heart failure, all conditions associated with aging.

Keywords: progeria, mutation, LMNA gene

HEALTHCARE AND MEDICAL METHODS OF TREATMENTS FOR CHILDREN WITH WILLIAMS BEUREN SYNDROME
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Purpose: To introduce different methods of treatments and special health care programs for children with Williams Beuren Syndrome.

Methods and materials: Williams syndrome is a rare genetic disorder caused by the deletion of the long arm of chromosome 7. It is characterized by many medical problems, such as cardiovascular disease, hypercalcaemia, distinctive facial features, dental problems, kidney problems, development delays and learning disabilities. We present you a case report about a 20-year-old boy with diagnose - Williams syndrome approved by fluorescent in situ hybridizations (FISH) chromosome test: FISH- 46,XY Williams LM (D7 S 486-SO) (D 7S S 22- SC). The boy has mental problems, learning difficulties, attention deficit, hyperactivity disorder. The boy visits the Daily Center for children with disabilities and every day works with different medical specialists: psychologist, rehabilitator and
Speech therapist. We present a sample scheme of therapy which could help parents, teachers, family and people with Williams Beuren syndrome develop their special ability together.

Conclusion: Medical methods and treatments aim to support and manage associated symptoms. There are many physical, intellectual and social problems with Williams syndrome and healthcare professionals need to play unique roles and understand them. We use speech therapy, social “training”, regular daily medical care, physical therapy from a physiotherapist, occupational therapy, sensory integration therapy, psychiatric evaluation and many others to prove that people with Williams Beuren syndrome could have their normal way of life if we had the right methods of work. In conclusion children with Williams syndrome have been said to have an affinity for music. Music is a great way to help children be free, because it is a multi-sensory experience that activates many different regions of the brain. It can also be used to reduce children’s sensitivity and help them work more effectively.

Keywords: medical methods of treatments for children with Williams Beuren syndrome, rare genetic disorder.
PATIENT WITH UNKNOWN DIAGNOSIS

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Introduction: Autoimmune diseases arise from an abnormal immune response of the body against substances and tissues normally present in the body (autoimmunity). It occurs when the body fails to tell the difference between self and non-self. When this happens, the body makes antibodies that are directed towards the body's own tissues.

Description: We present a 12 year old boy who has developed several autoimmune conditions over several years.


Results: The patient presents a combination of autoimmune conditions that developed over 8 years: severe atopic dermatitis, autoimmune thyroiditis, alopecia areata, anemia, celiac disease, adrenal insufficiency and, finally, autoimmune hypophysitis, presenting with GH deficiency. These were confirmed with the following investigations:
1. Reduced thyroid hormones, high level of Anti-TPO 316 U/ml.
2. Atopic dermatitis, confirmed with biopsy.
3. Decreased serum Iron - 5.8 mcml/L.
4. Morning level of cortisol at 08 o'clock was 141.15 nmol/l and ACTH stimulation test- cortisol in 0 min - 135.10 nmol/l, in 60 min 687.3 nmol/l, in 120min - 614 nmol/l.
5. EMG - Reduced conductivity of nn. tibiales anteriores
6. Growth velocity decreased over the last couple of years.

Skeletal age according to Greulich and Pyle method corresponded to a 9 years old boy. IGF-1 level was 30 ng/ml (r.r. 143 – 693).
7. Deficiency of Ig-A and vit. D was discovered
8. High levels of Anti-gliadin IgA 27.8 E/ml (limit<12E/ml), Anti-gliadin tTG IgG and IgA - negative.

Conclusion: This patient presents with an autoimmune polyglandular syndrome, which cannot be assigned to a known combination. Follow-up is guaranteed in order to answer whether this is a novel and not previously described autoimmune polyglandular syndrome or just a causal sequence.

Keywords: autoimmunity, antibodies, unknown, hormones, bone age

HOW VARIOUS STRESSORS AFFECT CORE TEMPERATURE AND NOCICEPTION IN RATS: A COMPARATIVE STUDY

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Introduction. Various stress models have been reported to include analgesia due to stress. This is a phenomenon, referred to as stress-included analgesia. Exposure of an animal to stressful stimuli, perceived by the animal as a threatening, emergency condition, except nociception, induces a transient increase in core temperature. This response is often called stress-induced hyperthermia. There is literature data that decrease of pain sensitivity often affects thermoregulatory mechanisms in the threatened organism. The purpose of the present study was to compare changes in pain thresholds and core temperature in rats exposed to immobilization (IS), cold (CS) and heat (HS) stress respectively.

Materials and methods. Antinociceptive effect were evaluated using the paw pressure test. The changes in the mechanical nociceptive threshold of the male Wistar rats were measured by analgesimeter. Colonic temperature was measured using a digital thermometer.

Results. The obtained results show that after IS, CS and HS there are significant increase in pain threshold. The most pronounced was the effect in nociception after HS, but this effect was very short. Effects of IS and CS was not so powerful, but they were observed during the whole investigated period of 30 minutes. After three models of stress increase in core temperature was observed during 15, 30 and 45-th min of the experiment. Only in the beginning
of the experiment CS elicits hypothermic effect, while IS and HS significantly increased core temperature, most pronounced for HS.

Conclusion. IS, CS and HS induced nociceptive and temperature changes in rats, which differ in intensity and continuance.

**Keywords:** stress-induced analgesia, core temperature, nociception

### EFFECT OF KYOTORPHIN NEUROPEPTIDE ON STRESS-INDUCED ANALGESIA

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**Introduction.** Kyotorphin (KTP) is a short–chain neuropeptide, discovered in the brain. The highest levels were found in the lower brain stem and dorsal spinal cord – areas closely associated with the pain regulatory system. The peptide binds to a specific receptor and induced Met-enkephalin release at rates of approximately four times the basal release. KTP plays a role in pain regulation, thermoregulation and exploratory behavior. A variety of stressful stimuli have been shown to elicit analgesia, a phenomenon often referred to as stress-induced analgesia(SIA). This is an adaptive response that occurs both in laboratory animals an humans. Recent studies have demonstrated that immobilization stress (IS) produces antinociceptive. It’s known that it increases the latency in hot-plate ant tail flick test. The aim of the present study was to examine the effects of kyotorphin on the immobilization stress-induced analgesia(ISIA).

**Materials and methods.** After 1 hour immobilization the changes in the nociceptive effects were examined by paw-pressure(PP) test in male Wistar rats. KTP(5 mg/kg) was intraperitoneally injected before or after the stress procedure.

**Results.** One hour immobilization increased significantly the pain threshold, which is in accordance with literature data. KTP injected before IS eads to more pronounced antinociceptive in PP test probably due to stimulation of Met-enkephalin release while applied after stress it inhibited the ISIA.

**Conclusion.** According to the literature peptides which are able to inhibit the expression of some forms of SIA are named anti-opioid peptides. Recent investigations show that some opioid peptides can act as antiopioides. We suggest that KTP has both: opioid like –and anti-opioid properties probably due to its receptor bindings.

**Keywords:** kyotorphin, stress-induced analgesia, pain threshold

### THE KYOTORPHIN NEUROPEPTIDE AND ITS ANTI-STRESSOR EFFECT

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**Sofia University**

**Introduction:** Although exposure to stress-factors caused an array of biochemical, physiological and behavioral changes, the two prototypical stress responses in all vertebrates are the activation of the hypothalamic-pituitary-adrenal(HPA) and sympatho-medullo-adrenal (SMA) axis. They both represent the effector limbs via which the brain influences all body organs during exposure to threatening stimuli. The activation of HPA results in the increase of plasma levels of ACTH and glucocorticids, whereas activation of SMA axis results in the increase of plasma levels of catecholamines. Kyotorphin(KTP) is dipeptide, neurotransmitter/neuromodulator, synthesized in specific brain regions. It binds to a specific receptor and induces Met-enkephalin release. The highest level of KTP were found in the areas closely associated with the pain regulatory system-lower brain stem and dorsal spinal
cord. Previous findings indicate that peptide modulate stress-induced analgesia (SIA). The corticosterone (CORT) contraception after three acute stress models (immobilization, cold and heat)

Materials and methods: The experiments were care out on male Wistar rats. KTP (5mg/kg) was injected intraperitoneally after the acute stress procedure (one hour immobilization, cold or hot exposure). Ten minutes later the animals were decapitated and blood was collected. Plasma was separated by centrifugation. ACTH and CORT were assayed by a double antibody radioimmunoassay method.

Results: According to our results HPA system was activated by all the stressors applied. Heat and immobilization are stronger stressors, since the exposure of animals to a high ambient temperature and immobilization resulted in the greatest rise of plasma ACTH and CORT concentration compared to cold stress. KTP inhibited significantly the rising in ACTH and CORT plasma concentrations after stress.

Conclusion: The various stressors applied seem to induce a different response of the HPA system as judged by quantitative changes in ACTH and CORT release. KTP showed anti-stressor effects, since it inhibited stress-induced rising in two investigated hormones.

Keywords: kyotorphin, stress, blood ACTH and corticosterone

DEEP VENOUS THROMBOSIS IN CHILD

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Introduction: Deep Venous Thrombosis (DVT) is a disease during which thrombi are formed in the deep veins of the lower limbs. The frequency of DVT in paediatrics is about 0.07 - 0.14 per 10 000 children a year.

Risk factors for the development of the disease are: hereditary – deficits of the natural inhibitors of coagulation, mutations in the prothrombin gene, deficit of MTHFR, disruptions of the fibrolithic system, and acquired – Lupus Erihematodes, Antiphospholipid syndrome, Polycythaemia vera. Modern diagnosis includes testing the complete blood count and coagulation status, Doppler ultrasound testing, contrast venography, scanner and NMR.

Case report: A 14-year old child is admitted to III Children's Department of UMHAT St. Marina Hospital – Varna as an emergency case with pain in the left inguinal area. Two days later, the pain spreads over the entire left leg, accompanied by swelling and change in the colour of the skin to livid. Dopler ultrasound testing is conducted, which shows total deep venous thrombosis of the left leg at all levels without data for recanalization, total thrombosis of v. saphena parva and v. iliaca in the left side. In the area of v. femorilis in the left side, the thrombus also encompasses the outflow of v. saphena magna. The results from the genetic analysis shows: deficit of MTHFR, increased activity of PAI and resistance to the activated protein C (factor V Leiden). On the grounds of the received data the diagnosis DVT is accepted. The treatment that is administered includes Sintrom, Heparin, Folic acid, Vitamin B6 and B12, elasticated socks and avoidance of prolonged periods of standing.

During the control ultrasound testing, complete recanalization of v. popliteal sin. and resorption of the thrombus was established.

Conclusion: This case shows that as rare as it might be, DVT exists. If it is diagnosed on time and due to treatment that is administered, the possibilities of recovery and avoidance of complications increase.

Keywords: child, coagulation, thrombosis, diagnosis, treatment
TOLOSA–HUNT SYNDROME ENDOCRINOLOGICAL EFFECTS

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This is a rare syndrome (1/1 000 000), which is mainly caused by nonspecific idiopathic inflammation of the cavernous sinus or superior orbital fissure. The main symptoms are pain around the sides and back of the eye and ophtalmoplegia. Cranial nerves III, IV and VI may be damaged as well. All age groups can be affected. MRI scans with contrast, blood and cerebrospinal fluid tests and effects of the corticosteroïd therapy supports the diagnosis. Patients who are resistant to the corticosteroid therapy or with relapses must be tested again and biopsy must also be made. In most cases the prognosis is usually considered good.

We are presenting the case of a 48 years old male who entered the Endocrinology Clinic in 08.2013. He complains of asthenia and adynamia, weight loss, low blood pressure and hair loss. Libido and ejaculation problems (erectile dysfunction) are the reasons he is directed to an endocrinologist.

In 2006 he suffered a viral infection, by which is inflammation of the optic nerve and consequent loss of vision in the left eye. There was a severe headache unresponsive to analgesics.

Tolosa–Hunt syndrome was proved after a pituitary gland MRI scan. The patient had suffered an inflammatory pseudotumor of the left orbit and inflammation in the area of the cavernous sinus which was followed by granulomatous pachymeningitis.

Endocrinological effects (<10%): panhypopituitarism - hypocorticism, secondary hypothyroidism, hypogonadotropic hypogonadism, decreased libido, hyposomatotropism; hypotension; abdominal pain; data for dry scaly skin; a lack of erection and ejaculation.

Normal levels of blood pressure, normal free thyroxine levels, normal circadian rhythm of cortisol and restored desire for sexual intercourse are observed six months later after replacement therapy.

Keywords: Tolosa-Hunt syndrome, endocrinological effects, panhypopituitarism

RETINOPATHY OF PREMATURITY – HOW CAN WE MANAGE WITHOUT AVASTIN (CASE REPORT)

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Retinopathy of prematurity (ROP) is a leading cause of childhood visual impairment in developed countries. Recently it had been successfully treated by intravitreal anti-VEGF (off label Avastin been prefered medication). Unfortunately Avastin currently is not available in Bulgaria.

ROP affects low-birth-weight preterm infants and by unknown reason might be self limiting disease, but also may take a florid course. In later case the treatment options are limited and especially when vascular component is predominant intravitreal Avastin appears to be the treatment of choice.

This case report presents a female infant born at 26 weeks gestational age, weighing 1270 g, who developed florid retinopathy of prematurity (ROP) with very prominent plus disease at the posterior pole. The patient also suffered neonatal respiratory distress syndrome, intra amniotic infection, neonatal jaundice. At first eye examination the in zone 2 almost circular ridge stage 3 was encountered in both eyes. At that stage transscleral cryotherapy was applied to both eyes. Regardless of the therapy the engorgement of the vessels was progressive. After consultation between several experts a decision for additional laser therapy was taken. This additional treatment led to successful regression of the neovascularization. However, according to the literature intravitreal application of Avastin would be beneficial for this case with less trauma.

Conclusion: There several surgical techniques available for treatment of progressive, aggressive ROP. However, the specialist must select the one which is less traumatic, as those children often has severe systemic problems
as well. Unavailability of Avastin in Bulgaria reduces the treatment options and increases the systemic risk for premature infants.

Keywords: retinopathy of prematurity, cryotherapy

THE ROLE OF SORBITOL PATHWAY IN DIABETIC CATARACT AND ALDOSE REDUCTASE INHIBITORS AS A POTENTIAL TREATMENT – A REVIEW

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BACKGROUND: One of the most common complications of diabetes mellitus is the diabetic cataract. It is considered a major cause of visual impairment in diabetic patients. Since the number of diabetic patients is constantly growing, the incidence of diabetic cataracts steadily rises. Many research studies have discussed the role of the sorbitol pathway in the initiation of the process and the possibilities for the early management of the disease. Sorbitol is a polyol, formed from glucose by the enzyme aldose reductase – the first enzyme of the metabolic pathway in lens.

MATERIALS AND METHODS: We performed metaanalysis based on literature review of recent studies on the sorbitol pathway in lens and the aldose-reductase inhibitors, as a potential method for control and prevention of cataractogenesis.

RESULTS: 64 studies dedicated to the subjects from 45 authors were reviewed and analysed. Most of them proved that sorbitol has a major role in the development of diabetic cataract. In conditions of hyperglycemia aldose reductase becomes very active, and a high quantity of sorbitol is formed. Due to its difficult diffuseness, this polyol accumulates in the lens. The result is osmotic swelling of the fibers. All other changes appear secondary to sorbitol accumulation and swelling of the lens. The cataract formation in diabetic patients might be prevented by inhibitors of aldose-reductase, which are still under investigation.

CONCLUSION: Many medical publications prove that aldose reductase has a major role in the pathogenesis of diabetic cataract. Aldose reductase inhibitors for prevention or treatment of diabetic cataract have been proven mainly in vitro and in vivo experimental studies.

Keywords: diabetic cataract, sorbitol, polyol pathway, aldose reductase inhibitors

CASE REPORT OF A PATIENT WITH PRIMARY HYPERPARATHYROIDISM. CONSERVATIVE OR SURGICAL TREATMENT?

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Introduction: Primary hyperparathyroidism (PHPT) is the unregulated overproduction of parathyroid hormone (PTH) resulting in abnormal calcium homeostasis. The reason of 85 percent of the cases is an adenoma of the single parathyroid glands and in the other cases is affected more than one gland. In other cases of a PHPT the reason is in a familial syndromes or rarely carcinoma.

There are two categories of patients: symptomatic and asymptomatic. The disorder is manifested with nephrolithiasis, gastrointestinal dysfunction (ulcer, gastritis, pancreatitis), osteoporosis and other bone changes, nonspecific cardiovascular and neuromuscular diseases.
When determining the diagnosis, it is used ultrasonography of the thyroid gland and parathyroid structures, CT of the neck and scintigraphy. In a large percentage of the symptomatic PHPT the treatment is a surgical. Endocrinologist and thoracic surgeon choose the way of treatment. Primary signs when choosing the way of treatment according to the guidelines of the National Institutes of Health (NIH) of the United States are Ionized calcium levels; Calciuria; Creatinine clearance; Osteodensitometry; Age (under/over 50). Secondary sings are the levels of parathyroid hormone (PTH) and vitamin D.

Description of the case: Female, a 60 years old entered in the University Hospital with the occasion for specifying of ultrasound established hypoechogenic thyroid nodule in the lower pole of the right lobe of the thyroid gland. She reported gastric complaints and kidney stones. Clinical, laboratory and medical image investigations were made. Values, showing the hyperfunction of the parathyroid glands, were established - increased PTH levels, Ionized calcium, 24 hours measured urine calcium and decreased levels of vit.D. After X-ray osteodensitometry were established osteopenia and osteoporosis. After the investigations were made, it was considered that the patient had a PHPT. According the results it was decided to be used conservative treatment with bisphosphonates drugs.

Conclusion: When conservative treatment exhausted its potential, the disorder is treated surgical. There are many guides on the basis of which physician choose what would be best for the quality of life of the patient.

Keywords: primary hyperparathyroidism, surgical, conservative, symptomatic, asymptomatic

BECKWITH-WIEDEMANN SYNDROME
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Beckwith-Wiedemann syndrome is a rare disease with an incidence of 1:13700. It is caused by genetic changes in both domains of chromosome 11p15. The located there imprint genes are responsible for the regulation of growth. Main clinical manifestations of BWS are macroglossia, omphalocele and facial dysmorphism. Hearing loss could be observed, as well as pigmented nevi and genitourinary anomalies. In 40% of the cases tumor Wilms and hemihypertrophy (left-right asymmetry) are detected. We present the case of a 5 month-old girl (HK) targeted for genetic counseling with a clinical diagnosis BWS associated with macroglossia and hemihypertrophy asymmetry of the upper and lower extremities on the left and data from ultrasound transcranial asymmetry of the lateral ventricles. DNA analysis conducted in GMDL “Genika Sofia” showed variation in methylation (hypermethylation) in DMR- region of the H19 gene. This result confirms the clinical diagnosis of Beckwith-Wiedemann syndrome.

Keywords: Beckwith-Wiedemann syndrome, macroglossia, omphalocele, facial dysmorphism, hemihypertrophy

NEONATAL TETANUS - CASE REPORT
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Tetanus is an acute infectious disease that affects the nervous system. It is caused by tetanospasmin, a neurotoxin, produced by the bacteria Clostridium tetani. It is a major cause of infant mortality in underdeveloped countries, but it is rare in Bulgaria. Infection is usually a result of umbilical cord contamination during unsanitary delivery, combined with a lack of maternal immunization. We present a case of male neonate, born at home in a barn, who became irritable, developed muscle spasms, laryngeal stridor and seizures a few days after birth. After excluding all other possible causes the diagnosis of neonatal tetanus was established. Mechanical ventilation with sedation, anticolvulsant therapy and muscle relaxants was initiate, as well as surgical management of the
contaminated wounds. Meanwhile treatment with metronidazole, tetanus immune globulin and tetanus toxoid-containing vaccine was applied. After improvement of his medical condition he was discharged from the hospital for rehabilitation and further management of the persisting hypertonus and difficulty in swallowing. Although neonatal tetanus is a rare condition in developed countries it is important to consider it in the differential diagnosis of neonatal hypertonus and seizures, especially in newborns born at home from unimmunized mother.

**Keywords:** Neonatal tetanus

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**BARTTER'S SYNDROME - CASE REPORT**

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Bartter's Syndrome (BS) is an autosomal recessive disorder that affects the short (p) arm of chromosome 16 (16q13). It is characterized by an inherited defect in ion exchange in ascending limb of Henle’s loop and magnesium reabsorption in the distal tubule. The basic biochemical characterisation includes hypokalemia, hypomagnesemia and metabolic alkalosis with an increase in urinary potassium and magnesium excretion. There are several existing phenotypes and one of them is Gitelman syndrome. In Bartter's Syndrome calciuria is normal or increased, but hypomagnesemia is rare. In Gitelman Syndrome, however, both hypomagnesemia and hypocalcemia are established.

We focus our attention on a detailed analysis of the clinical picture and laboratory parameters, which should be a leading diagnostic approach.

**CASE REPORT.** We present a case of a 36-year-old woman (N.T.H.) with asthenic-adynamic syndrome (fatigue, muscle weakness, tiredness), pain in the muscles of the neck, shoulder girdle, upper and lower limbs. During prolonged activity the patient complains of spasms and cramps with uncontrolled movements and seizures. Early complaints date back to 1994 with similar symptoms. Established are hypokalemic hypochloremic alkalosis, hypotension and hypokalemic myopathy. There is a laboratory evidence of increased lying/standing renin/aldosterone levels. A percutaneous kidney biopsy from 2004 reveals preserved tubulointerstitial morphology. Any changes in potassium level was associated with extreme elevation of CPK levels, a sign of rhabdomyolysis. In 2013 when the patient is hospitalized in St. Marina hospital, Varna, in the Department of nephrology, ultrasound-proved bilateral nephrosclerosis and laboratory evidence of advanced CKD are established. In 2014 uremia (nitrogenemia) is reported. The patient is offered a PD / HD treatment, which she refuses.

In January 2014 because of altered vital signs HD treatment is started. In February the patient was subjected to renal replacement therapy in the form of continuous ambulatory peritoneal dialysis (CAPD).

**Keywords:** disorder, hypokalemia, hypomagnesemia, woman, nephrosclerosis

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**COMPLETE RECOVERY AFTER INGESTION OF LETHAL DOSE OF METHANOL**

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Methanol is the simplest alcohol, often used as organic solvent. It is highly toxic and can cause permanent vision loss, neurological impairment and even death when ingested. We present a case of 13 years old female admitted to the Pediatric Intensive Care Unit approximately 1 hour after ingestion of 150 ml of 95% methanol in an attempt for suicide. The patient presented with signs of alcohol intoxication - euphoria, slurred speech, facial hyperemia, and injected conjunctivae. Laboratory results showed metabolic acidosis and serum methanol level of 1,2‰. Infusion
of ethanol and forced diuresis was started immediately, while the patient was prepared for hemodialysis. After 3 sessions of hemodialysis serum levels of methanol dropped to 0.19‰. The patient was discharged from the ward, on the 8 day after admission, without any sequel. Prompt initiation of treatment after ingestion of lethal dose of methanol can result in complete recovery without any permanent sequel.

**Keywords**: methanol

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**CONNECTION BETWEEN LIFESTYLE AND PATHOPHYSIOLOGICAL MECHANISM OF METABOLIC SYNDROME**

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**Aims/Objectives**: Metabolic syndrome (MS) has emerged as a growing public health problem worldwide associated with changes in the environment, feeding, behavior and lifestyle. The increasing consumption of high calorie foods and those containing fructose leads to obesity, high fasting glucose, dyslipidemia and hypertension - important components of MS. Several possible mechanisms explaining the relationship between lifestyle and the components of MS.

The proinflammatory and prothrombotic states of metabolic syndrome derive largely from the secretory activity of adipose tissue, particularly intra-abdominal or visceral fat. Contrary to the former understood concept of fat as an inert tissue mass, adipocytes are being increasingly recognized as secretory entities.

Cytokines and other inflammatory markers or signaling molecules released by adipocytes -- termed "adipokines"-- include leptin, TNF-alpha, interleukin-6, resistin and adiponectin. Adiponectin levels are inversely related to fasting plasma insulin and glucose levels. Weight loss by obese individuals has been associated with increased adiponectin levels. Several lifestyle behaviors may influence whether or not a person can maintain energy balance over a long term period.

**Methods**: Meta-naliz bases on publications connected with lifestyle and pathophysiological progress of MS

**Results**: Overall, the mean changes in lifestyle in the study population were small, the between-individual changes were large. In the NHS, for example, the difference between persons in the upper level of change and those in the lower level of change (95th percentile minus 5th percentile) was 3.1 servings per day of vegetable consumption, 25.3 metabolic equivalents (METs) per week for physical activity, and 0.66 drinks per day for alcohol consumption and low-fat dairy products.

**Conclusions**: Identification and clinical management of this high-risk group is important. The lifestyle recommendations are based on the rules of a healthy diet, increased physical activity and reduction in harmful environmental factors.

**Keywords**: pathophysiology, metabolic syndrome, lifestyle
ACUTE RESPIRATORY DISTRESS SYNDROME IN A PEDIATRIC PATIENT
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Acute Respiratory Distress Syndrome (ARDS) is characterized by acute bilateral pulmonary infiltrates on chest radiography, arterial hypoxemia resistant to supplemental oxygen and noncardiogenic pulmonary edema. Although it is a rare clinical entity in the pediatric population it is one of the most challenging conditions for a clinician to manage. We present a 3 year old male with spinal muscular atrophy type 1 who was mechanically ventilated at home through a tracheostomy tube. He was admitted to our Pediatric Intensive Care Unit with the diagnosis of unilateral ventilator associated pneumonia. There days after the admission his condition deteriorated with worsening arterial hypoxemia, unresponsive to increasing levels of fraction of inspired oxygen (Fio2), and bilateral chest infiltrates. After excluding heart failure he was diagnosed with ARDS. After vigorous treatment with broad spectrum antibiotics, corticosteroids, vasopressors, and mechanical ventilation consistent with the guidelines for the management of ARDS, his condition gradually improved. He was discharged at home with his personal mechanical ventilator after he became oxygen independent and bilateral chest infiltrates resolved. Prompt diagnosis and treatment with low tidal volume strategy with permissive hypercapnia and continuous adjustment of the Fio2 and the positive end expiratory pressure to meet a target arterial oxygen saturation of 90% can reduce mortality in pediatric patients with ARDS.

Keywords: ARDS, mechanical ventilation, pediatrics
EYE DISEASES DEPICTED IN ART
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This essay will give an overview of how famous artists depicted eye diseases. The vision is the most intimate sense for the artist. The variety of different eye conditions can affect to the judgement of the artist and to his choice of materials and colours.

The purpose of this introduction is how eye diseases have affected the way in which some of the world’s most famous artists express themselves.

Methods and materials are analyses of some of most famous paintings in the history of art. For example, some of the impressionist artists working in the late 19th century suffered serious eye conditions, and it is interesting to look at their works to find out how the artist deals with misfortune. But far from being resigned to their illness and by dealing with the difficulty, they created a new vision of art that has inspired a new era and others to come.

Interestingly, eye diseases and ophthalmic devices have been depicted in works by artists who were not affected by ocular conditions themselves, but who were interested in medicine, more particularly in ophthalmology.

Art and science can be complementary. It is fascinating for an ophthalmologist do witness how artists were mesmerized by blindness and how meticulously some artists, interested in medicine, depicted eye diseases in their art work.

Keywords: art, eye diseases

PIGMENT DISPERSION SYNDROME – DIAGNOSIS BY IN VIVO LASER CONFOCAL MICROSCOPY
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Introduction. In vivo laser scanning confocal microscopy (LSCM) can non-invasively characterise structural tissue changes in many ocular surface diseases. In glaucoma, LSCM is used to analyse ocular surface alterations. LSCM allows optical view of microstructural cornea changes and imagining cell level of physiological and pathological structures.

Purpose. To demonstrate in vivo laser confocal microscopy as an option for precise diagnosis and monitoring of the cornea in pigment dispersion syndrome (PDS).

Methods: Five patients with PDS were examined by in vivo laser scanning confocal microscopy (HRTII Rostock corneal module). Several examinations were performed in order to facilitate quantitative and qualitative analysis of the subbasal nerve plexus, endothelial cells and bright granules, presumed to be pigment. Fellow eyes of patients with PDS also had significantly changed densities of the basal epithelial and endothelial cells.

Results. The mean age of patients with PDS eyes was 58,7 years. Descriptive analysis was performed by two independents investigators. The most significant findings were hyper-reflective granules on endothelial surface, which were bright, reflective, round and small. The qualitative morphology of the endothelium of PDS corneas was highly abnormal in term of polymegathism and pleomorphism. Fellow eyes of patients with PDS also had significantly lower densities of the basal epithelial and endothelial cells than the pigment dispersion syndrome eyes. Interestingly PDS demonstrated high density of the deposits over the endothelium in central cornea.

Concusion. In vivo laser confocal microscopy demonstrates new perspectives for diagnostics of the pigment dispersion syndrome and differential diagnosis with other similar pathology like PEX. Also LSCM can do staging of the process. The method has wider applications for monitoring and long term prognosis.

Keywords: cornea, in vivo laser confocal microscopy, pigment dispersion syndrome
VISUAL PERCEPTION AND SUSCEPTIBILITY TO OPTICAL ILLUSIONS IN ALZHEIMER’S DISEASE

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Purpose of the study. To evaluate visual perception and susceptibility to optical illusions in patients with mild and moderate Alzheimer’s disease (AD).

Materials and methods. The study was conducted in the department of Neurology at Vilnius University Hospital Santariskių Klinikos. We enrolled 23 patients with mild to moderate AD and 25 cognitively normal control subjects, matched for age, sex, level of education and type of occupation. Visual perception and susceptibility to optical illusions were assessed using a set of 32 pictures that were divided into six groups according to mechanisms of perception. Cognitive functions were assessed using Mini-Mental State Examination (MMSE).

Results. Patients with AD were significantly less susceptible than control subjects to 2 out of 4 geometrical illusions (p<0.001). They were also less susceptible to 1 out of 3 colour illusions (p=0.046). Decreased susceptibility to optical illusions was present in the stage of mild dementia (MMSE>20 pts.). Performance in embedded images tasks was significantly (p<0.05) worse in AD patients in 7 out of 8 cases. Patients with mild dementia were significantly worse than control subjects in evaluating 3 of these pictures. Patients with AD identified both possible meanings less frequently than control subjects in 1 out of 3 pictures of ambiguous figures (p=0.001). AD patients made significantly more mistakes than control subjects in 4 out of 8 optical paradoxes tasks (p 0.02 – <0.001). Mild dementia patients’ performance was significantly different from control group in 2 of these tasks. There were no significant differences between patients with AD and control subjects in perception of motion illusions.

Conclusions. Visual perception is impaired in AD. Deficits in visual perception occur early in the course of the disease. They are present in patients with mild dementia.

Keywords: visual perception optical illusion Alzheimer’s

RESEARCH ATTITUDE, EXPERIENCE AND BARRIRS OF MEDICAL STUDENTS AT MEDICAL UNIVERSITY OF Varna

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Introduction: Scientific research and medical writing are an essential part of medical education. As they are inextricably linked to clinical practice, medical students should understand their crucial role in the process of learning and for their future career development. The aim of this study is to evaluate the awareness of research possibilities of the student at the Medical University of Varna and their motivation for scientific work and presentation of the results.

Methods: A survey among the students from Medical University of Varna was made. The wireframe of the questionnaire was based on similar study form the UK and included questions about students’ experience in article submission, motivation for publication, the type of research in which they have participated, the reason why they are/are not interested in scientific publications and research etc.

Results: Questionnaires from sixty six students were included in the study. Seven of 66 (10,6%) had participated in research at the university, which had reached the stage of publication. Their main motivation for publishing is to acquire knowledge. The main barrier for those who had not published was the lack of opportunity to participate in a research. Sixty three percents of the students do not feel encouraged by their tutors to take part in scientific projects. Only 16/66 (24,2%) students feel competent to write an article and 7/66 (10,6%) of them feel aware of the presentation process. The other 59/66 (89,4%) stated, that they are willing to learn how to perform and publish a research.
Conclusion: The students at the Medical University of Varna have a positive attitude towards publishing and realize its crucial role for career development. However, it is very important that students receive additional education in writing papers and abstracts – essential skills that they will need in their postgraduate practice.

Keywords: research, students, motivation, study, questionnaire

COUMARINES - A POSSIBLE NEW GENERATION OF ANTICONVULSANT DRUGS
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Introduction. According to a report from 2010 around 6 million individuals have epilepsy in the European region. The estimated number of new cases per year amongst European children and adolescents is 130,000. Scientists are in search of a better treatment ever since the disease has been recognized.

Description. This research summaries publications reviling a new method of anticonvulsant therapy which can contribute to a new anti-epileptic therapy.

Coumarin derivatives have been known as anticoagulant for decades. However, some compounds have anticonvulsant properties. Therefore, can we suppose that coumarins can be a new generation anticonvulsant drugs?

Materials and methods. The data was collected from the database of Google Scholar, Research Gate, Science Direct, PubMed, National Center for Biotechnology Information, Directory of open access journals, with keyword „anticonvulsants”, “coumarins”, “coumarin derivatives” and “anti-epileptic therapy.”

Results. The research found proof that coumarins, known mainly for their anticoagulant activity, have anticonvulsant properties as well. In 2008 scientists studied new coumarin derivatives and confirmed their anticonvulsant activity against pentylentetrazole (PTZ) induced seizures.

Another study of “Anticonvulsant activity of Balanites aegyptiaca” shows that saponins and coumarins may be responsible for the anticonvulsant activity, whereas, the coumarins increase brain levels of GABA inhibiting GABA transaminase enzymes, thereby inhibit PTZ- and lithium-pilocarpine-induced convulsions.

Conclusions. Even though the majority gets treated, a significant percentage of them do not respond well or at all to the drugs. This is the why scientists are in search of more efficient anticonvulsant treatment, which will be in favor of epilepsy therapy.

Keywords: anticonvulsants, coumarin, anti-epileptic therapy

IMPERFORATE HYMEN
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Objective. Imperforate hymen is an uncommon obstructive congenital abnormality of the female genital tract. Studies show the frequency at 1 case per 2000 female births. Occurring during embryological development leads to an extreme of a spectrum of variations in hymenal configuration leading to amenorrhea and menses collection in the uterus and cervix. Early diagnosis is imperative to prevent further complications but it is rarely diagnosed in the neonatal period or infancy.

Methods. We observe the wide variety of imperforate hymen in patients from childhood to adolescence basing on prenatal ultrasound and later inspection of the external genitalia and anus. Accompanied by the usual complaint
of expending abdominal mass, cyclic lower abdominal or back pain, urinary disturbances and prolongation of mixed bacterial vulvovaginitis with primary amenorrhea.

Results. Pelvic ultrasonography via the transabdominal, transperineal, or transrectal route such as microperforations, septa, fenestrations, bands, displacements and rigidity/elasticity differences is indicated as the initial diagnostic test for the patients who have cyclic abdominal pain, urinary retention, and constipation due to hematocolpos and hematometra. Surgical treatment of imperforate hymen involves hymenectomy after a cruciate, plus, or X-shaped hynenotomy incision for further evacuation of hematocolpos.

Conclusion. Postoperative pelvic radiologic examination for diagnosis of accompanying uterine abnormalities is recommended. Early diagnosis leads to good prognosis but it is often seen in pubertal girls. It is important to be aware of imperforate hymen while examining a young females since late discovery of this genital abnormality may lead to pain, infections, hydronephrosis and endometriosis with subfertility as a possible consequence.

Keywords: imperforate hymen, obstructive abnormality of female genitalia, hymenal configuration problems, cyclic pelvic pain, X-shaped hynenotomy

CAN FOLIC ACID REDUCE THE RISK OF AUTISM?

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Over the past twenty years autism rates have risen by over 600%. Unhealthy diet and obesity problems worldwide unlocked a new era of mental disorders. The success of folic acid supplementation in the prevention of neural tube defects has prompted researchers to examine whether folic acid might also prevent other neurological disorders such as autism in children.

The purpose of this study is to show us that there is a link between the intake of Folic acid during pregnancy and the increasing cases of children diagnosed with SDA.

Methods and Materials: We used published articles and research on this topic in USA and Norway about autism over the last few years.

Results: The incidence of autism in the U.S. has increased and now affects 1 in 150 U.S. children but the Norwegian scientists found that women who took folic acid before and during early pregnancy were about 40% less likely to have a baby later diagnosed with autism. The prevalence of autism in Norway is much lower, and that the small percentage of children with each condition found in this study reflects the lower overall rate compared with recent rates in US children. The results clearly support the use of folic acid supplements.

Conclusions: Although the findings do not establish that folic acid use prevents autism, but this study supports the widespread recommendation for would be mothers to begin taking the supplement before conception.

Keywords: folic acid, autism, supplement, prevent, public health
SURGICAL TREATMENT OF A RUPTURED SINUS OF VALSALVA ANEURYSM INTO RIGHT VENTRICLE: CASE REPORT

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An aneurysm of a sinus of Valsalva accounts for only 1% of all congenital cardiac anomalies. A 39-year-old male presented with a 6-month history of palpitation and exertional dyspnea. The physical exam revealed bilateral pretibial edema, continuous murmur at Erb’s point, heart rate at 100 bpm and RR 115/60. Transthoracic echocardiography revealed an aneurysm of the right sinus of Valsalva rupturing into the right ventricle, resulting in left-to-right shunt. This induced the low diastolic blood pressure, the right ventricular volume overload and the characteristic features of tricuspid regurgitation. After the diagnosis was confirmed, the patient underwent open heart surgery to close the ostium of the aneurysm. After instituting cardiopulmonary bypass and cardioplegic cardiac arrest the aortic root was opened transversely, the aneurysmal sac was excised and a pericardial patch was sewn into place to close the defect in the sinus of Valsalva. Annuloplasty of the tricuspid valve with semi-ring was performed to treat the regurgitation. In the postoperative period, the patient presented without complications.

Keywords: aneurysm, sinus of valsalva

BLOOD BLISTER-LIKE ANEURYSMS - HOW TO FACE THEM?

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Introduction: Aneurysms at non-branching sites of the artery, which protrude from dorsal/anterior wall of internal carotid artery (ICA) are known as blood blister-like aneurysms (BBAs). These entities do not exceed 6.5% of all ICA aneurysms. Due to fragile wall, rupture of BBA during microsurgery or endovascular coiling may produce a massive intracranial bleeding. Moreover, there were several cases of BBA’s regrowth after initial treatment. Aim of the study: It has not been established which securing method of BBA (clipping, wrapping, clip-wrapping, trapping with or without by-pass, coiling, stenting, coil-stenting) is the most durable and should be supported. This study was preformed to face this problem.

Material and methods: English language studies between years 1983 and 2012 were included. Terms: “BBA”, “blister”, “dorsal/anterior wall ICA”, “nonbranching”, “nonbranching”, “non-saccular”, “traumatic” and “dissecting” aneurysms were searched in Scopus database. Total of 349 ruptured BBAs were selected from published series and 7 own cases were included. The impact of treatment modality on intra-, postprocedural bleeding and outcome were verified. Gender, age, arterial hypertension; WFNS, Fisher, Hunt-Hess grades at admission; size, projection and side of BBA were added to multivariate analyses. Stepwise logistic regression, ROC comparisons and Population Attributable Risk were calculated.

Results: Mortality rate (overall 16.7%) was significantly related to Hunt-Hess 4/5 grades (OR = 2.9), intra- and postprocedural bleeding (OR = 2.8 and 11.5 respectively). Risk of unfavourable outcome was attributed to Hunt-Hess 4/5 grades (OR = 3.1), higher age (OR = 2.5), intra- and postprocedural bleeding (OR = 3.1 and 16.6 respectively). Recurrent bleeding was responsible for 39.9% of overall unfavourable outcome risk and occurred significantly more often after coiling (OR = 4.9). All of endovascular methods were related to increased rate of BBA regrowth (OR = 6.5).

Conclusions: Clinical results after endovascular and microsurgical treatment of BBAs are comparable. The risk of recurrent bleeding or BBA regrowth is increased after endovascular repair. Regardless of applied securing method, higher Hunt-Hess grades at admission, age, intra- and postprocedural bleeding are responsible for patients’ worse outcome.

Keywords: cerebral aneurysm, internal carotid artery, blood-blister like, meta-analysis
RECONSTRUCTIVE SURGERY OF THE HEAD WITH LOCAL AXIAL FLAP

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The presented case is of a patient with a deep chemical burn in the frontal area of the head, subject to reconstructive surgical treatment. A 66-year-old female with an iodine burn in the area of the head, was operated for meningioma 20 years ago when the bone defect was restored with Duracryl. On admission she had a defect in the frontal area measuring 5x10 cm, at the bottom of which the Duracryl plaque could be seen. The defect was covered by local axial flap with feeding vessels – superficial temporal artery and posterior auricular artery and free-skin graft on the donor. The emerging inflammatory process required the replacement of Duracryl with titanium mesh, which was covered by the same flap after scoring the epicranial aponeurosis. Complete vitality of the axial flap was observed. Total cover of the titanium plaque was achieved with a satisfactory aesthetic result. The axial local flaps are an appropriate method for covering defects on the head devoid of periosteum and calvarium in the cases where those defects do not exceed more than 50 per cent of the surface of the head.

Keywords: reconstructive head surgery, flap, burn

LAPAROSCOPIC INGUINAL HERNIA REPAIR – TRANSABDOMINAL PRE-PERITONEAL (TAPP) AND TOTALLY EXTRAPERITONEAL (TEP) TECHNIQUES

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Inguinal hernia repair is the most frequently performed operation in general surgery. The lifelong risk for developing a hernia is over 20% for men and 3% for women. The methods of inguinal hernia repair have been evolving for over a century until the introduction of laparoscopic mesh placement.

The aim of this study is to review the literature data about the indications, risks and postoperative results of laparoscopic inguinal hernia repair and compare the two most commonly performed operations.

For patients with recurrent inguinal hernia, or bilateral inguinal hernia, or if fast recovery is needed, laparoscopic repair offers significant advantages over open techniques with regard to recurrence risk, pain, and recovery. Re-recurrence rates may decline to 5% or lower with laparoscopic repair, compared with rates as high as 20% for anterior repair. The choice of repair for primary unilateral inguinal hernias is controversial as either laparoscopic or open repair with mesh can offer excellent results. Most studies report that the learning curve for TEP is longer than TAPP.

A minimally invasive laparoscopic hernia repair offers numerous advantages to patients-less post-operative pain, faster recovery from surgery and more rapid return to work and normal activities. Patients can often go home the same day as the surgery or within 24 hours. However the risk of trocar hernia, hemorrhage, mesh migration and recurrence persist. A thorough knowledge of the anatomy and the operative approach, along with advanced laparoscopic skills will reduce the chance of a significant complication.

Keywords: inguinal hernia, laparoscopic aproach, TAPP, TEPP
ROBOTIC SURGERY IN OTORHINOLARYNGOLOGY, HEAD AND NECK SURGERY

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Objective: Since its introduction in the 1990s, robotic surgery (RS) is mainly used for urological and cardiothoracic operations. The aim of the present study was to make an overview of the implications of RS in Otorhinolaryngology, Head and Neck surgery.

Material and methods: A primary search of scientific publications in PubMed, ENT Journals and industry information from the internet was performed in February 2014. The key words were “robotic surgery, TORS, Da Vinci robot”.

Results: A total of 20 articles were collected and further analyzed. The major approaches for robotic surgery include transoral robotic surgery (TORS), transaxial robotic surgery (TARS) and RS with retroauricular approach. TORS is utilized mostly for the removal of early stage pharyngeal cancer. One of the latest fields in which the robot is being used is treating Obstructive Sleep Apnea. Surgeons use the robot for a substantial number of procedures such as vallecular cyst excision and radical tonsillectomy. TARS and the retroauricular approaches address mainly the neck. Interventions in this group include: neck dissection, surgery of the thymus, the submandibular gland and the thyroid.

With numerous already established procedures in the otorhinolaryngology, head and neck surgery this state-of-the-art technology will apparently become more widely used in the following years because of the minimal invasiveness, highly magnified visualization, unmatched precision and better functional results.

Keywords: robotic surgery, TORS, Da Vinci robot

MANAGEMENT OF NEAR-DROWNING VICTIMS

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Introduction: Every year more than 500,000 people are drowning worldwide; in Bulgaria the number of victims for the last year was 71; despite the fact that drowning is a topic with social significance there is no clear unambiguous algorithm for managing the near-drowning victims.

Main goal: To present a clear and precise algorithm in case of critical, emergency, time limited life-threatening situation.

Materials and Methods: Overview of broad spectrum of medical literature analysis. The algorithm is based on official medical recommendations for saving patients life.

Results: The algorithm includes the following steps: 1) removing the victim from the water at the earliest opportunity; 2) clearing the mouth from rough objects and materials, securing the airways giving immediately two mouth to mouth breaths (steps “A” and “B” from the BLS of CPR); 3) positioning the patient on solid ground in drainage position for securing the airways for no more than 10 s; 4) performing BLS; 5) ICU treatment for 48 h at least;

Discussion: Some medical data suggest that “A” and “B” from the BLS of CPR has not that much clinical importance for the outcome. According to our survey step “A” and “B” should not be neglected, contrariwise it needs special attention because “if” you don’t control the breathing, then you’ll definitely lose the heart.

Keywords: drowning, resuscitation, management, algorithm
EXOTIC CAUSE OF UPPER GASTROINTESTINAL OBSTRUCTION - RAPUNZEL SYNDROME

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Introduction. Bezoars are concretions of foreign materials that impair gastrointestinal motility or cause intestinal obstruction in the stomach, small intestine or bowel of humans or animals. There are many types of them such as phyto, lacto and trichobezoars. One of the rare causes of upper gastrointestinal obstruction is Trichobezoar. Gastric bezoars are a rare clinical entity, most commonly observed in patients with mental or emotional illness.

Materials and Methods: 21 y.o. female patient diagnosed with schizophrenia presented with colicky abdominal pain; distension and vomiting for more than 2 weeks. The parents said that the girl had pulled out and ingested her hair since several years ago. After clinical examination of the patient we performed the following procedures: Echography; X-ray radiography; Computer tomography; Endoscopy;

Results. Laparotomy was performed, a mass of trichobezoar was removed, the bowel passage was restored, further psychotherapy was advised.

Conclusion. In the differential diagnosis of abdominal pain and solid abdominal mass Trichobezoar has to be considered as an under-diagnosed entity. This condition usually appears in patients with normal gastrointestinal function but with psychiatric problems such as trichophagia and/or mental retardation. Small trichobezoars may be extracted by endoscopic fragmentation, gastric lavage, enzymatic therapy or combinations of these approaches. Bezoars like Rapunzel syndrome, on the other hand, need surgical removal.

Keywords: trichobezoar, upper gastrointestinal obstruction, Rapunzel syndrome

VOMERONASAL ORGAN - OCCURRENCE IN BULGARIAN POPULATION

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The Vomeronasal organ (VNO) is an accessory olfactory organ found in vertebrates that specializes in chemoreception of pheromones. The aim of this study is to determine the existence and occurrence of the VNO in adult humans. For the study 966 video recordings of outpatient nasopharyngolaryngoscopies performed at the University Hospital „St. Marina” – Varna - were retrospectively reviewed. A total of 155 (16,04 %) were appropriate for evaluation. Of these 52 were bilateral recordings, 47 only left-sided and 54 right-sided. The total number of nasal halves was 205. The data showed that 20 of 99 (20,20 %) cases evaluable on the left side expressed the organ, 33 of 106 (31,13 %) cases evaluable on the left side expressed the organ and 2 of 52 (3,85 %) cases evaluable on both sides expressed the organ bilaterally. Based on the collected data the VNO is present in 26,83 % of the investigated subjects. More research should be focused on revealing the functionality of the organ and its preservation in surgical manipulations affecting the nasal septum and other nearby structures.

Keywords: vomeronasal organ, pheromones, nasopharyngolaryngoscopies
HAEMANGIOPERICYTOMA OF THE LARYNX –
A CASE REPORT A REVIEW OF THE LITERATURE

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Introduction: Haemangiopericytoma (HPC) is a vascular tumor originating from Zimmerman’s pericytes. Laryngeal involvement is very rare with so far only 12 cases reported. We present a new case with an emphasis on the rate of tumor growth.

Case report: A 62-year-old man was subjected to microlaryngeal surgery in another institution for laryngeal tumor. After complete macroscopic excision the tumor regrew in a month to an extent that necessitated tracheostomy because of dyspnea. Subtotal debulking was performed. Histology showed squamous cell carcinoma. Thirty three days later endoscopy revealed a tumor measuring about 8x8 mm. Twenty days later the tumor had regrown again to a size of about 2x3 cm. Again endoscopic debulking was performed. Histology with staining for Ki-67, CD 99, CD 34, S-100 protein, Vimentin, CD45 revealed this is a malignant HPC.

Discussion: HPCs may be confused with many mesenchymal tumors (different sarcomas, solitary fibrous tumor etc.), and because of this resemblance, often specialised immunopathological tests are needed. Once diagnosed and staged, the tumor should be treated with radical laryngectomy. Published case reports reveal that patients subjected to total laryngectomy have better chances of survival than those whom only partial excision is made.

Radio- and chemotherapy are with no clinical evidence of effectiveness. Our observation shows that HPC of the larynx is a rapidly growing tumor. Its local progression is marked by airway compromise and bleeding and is much faster than the regional and distant spread.

Conclusion: HPC is very rare tumor with difficult diagnosis and treatment. Clinical decisions should be well considered and based on experience gained from the other cases.

Keywords: haemangiopericytoma, larynx

APPLICATION OF 3D PRINTING TECHNOLOGY IN ENT

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Objective: The research on this topic is conducted as 3D printing can provide various benefits in a number of ENT disorders, it can potentially reduce the cost of some conventional ENT procedures in hospitals and it can greatly aid ENT surgeons in their pre-operative training.

Material and Method: Information regarding applications of 3D printing technology in ENT was gathered from selective scientific articles as well as industries producing bioprinters. Relevant articles were found in pubmed or through google scholar.

Results: Numerous scientific articles from various scientific journals (e.g. The Cleft Palate-Craniofacial Journal, Otolaryngology - Head and Neck Surgery Journal) were used along with information taken from an industry producing bioprinters (Organovo). Pre-operative training as well as educational training can be done on 3D printed temporal bone and ear ossicles. Implantable 3D printed auricle, ear ossicles can be used as prosthesis. Bioscaffolds for craniofacial soft tissue reconstruction are also introduced.

Conclusion: It is clear that benefits of 3D printing in ENT and generally in medicine are vast although this technology is still to be developed. Those benefits make the rapid development of this technology imminent as both patients and ENT surgeons are to be positively affected.

Keywords: 3D printing, 3D modeling, 3D printing in Surgical training
REVIEW OF MECHANICAL PROSTHETIC VALVES IN CLINICAL PRACTICE

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Severely diseased heart valves have to be replaced by artificial or biological prostheses that allow the patient to live a normal life. In the last five decades the mechanical valves underwent structural evolution. This study aims to present the different kinds of aortic prosthetic valves - caged-ball, non-tilting disc and bileaflet valves, and their succession in order to improve their tolerance, reduce thromboembolic complications and to make easier their implantation. Many of these prostheses can remain durable for up to 40 years.

Keywords: prosthetic, heart, valves, artificial, aortic

BOXER’S FRACTURE: THE ADVANTAGES OF PERCUTANEOUS TRANSVERSE K-WIRE PINNING

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Objectives: to present the benefits of mini-invasive technique with K-wires than traditional open surgery.

Methods. Fractures of the neck of the fifth metacarpal bone (Boxer’s fracture) is a result of direct force - a closed fist striking of firm object in most of the cases are communate.

For the period 2010-2013 we operated 21 patients with a Boxer’s fracture. Mean age is 26 and the youngest patient was 18 years. All had a violent traumatic moment. First exam is made 24-72 h after injury. Clinical presentation was moment sever pain, tenderness, snapping sensation and limited movements and deformation of the area.

We perform mini-invasive technique percutaneous transverse K-wire pinning. We use a dorsoulnar entry points on the head of fifth metacarpal bone and two X-crossed K-wires – 1.8-2.2mm. Thickness of the K-wire depends on gender of the patient and his anatomical structure. We use RIVA anesthesia because of its significant post-operative analgesia. Average surgery time 20 min. On the 30-35 day we make an x-ray and if there a full bone healing we remove k-wires.

Results. Patients was hospitalized for 1 day and there was general complications. The advantages of this technique are: short post-operative rehab - they can move their fingers immediately after the procedure and start rehabilitation, don’t need immobilization, as severe pain, inflammation or bleeding or secondary displacement of the bone return to its normal condition -45 day.

Discussion. Mini-invasive technique is reliable option for patients with high requirements who don't want to be immobilized. K-wires provide strength and secure fixation. Short operative time and fast recovery are benefits than a plate stabilization.

Keywords: boxing fracture, fifth metacarpal, mini-invasive, percutaneous, K-wire
PSEUDOTUMOR CEREBRI IN PREGNANCY

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Idiopathic intracranial hypertension (IIH), also termed pseudo-tumor cerebri (PTC), is a rare disorder characterized by increased intracranial pressure in absence of any intracranial space-occupying lesion. It affects primarily obese women of childbearing age. The main symptom is headache, and the most important neurologic manifestation is papilledema, which may lead to progressive optic atrophy and blindness. This case report reviews a pregnant patient at 23 weeks' gestation with a history of pseudotumor cerebri (PTC) and failed medical treatment. The 29-year-old woman, gravida 2, paragravida 0, spontaneous abortion 0, was in active labor. This patient first experienced global headaches and blurred vision at 3-4 at weeks' gestation. At the time of onset of her headache symptoms, she underwent a full diagnostic workup and detailed neurologic examination, including magnetic resonance imaging (MRI) of the brain and a lumbar puncture. The MRI was normal. Her lumbar puncture showed elevated cerebral spinal fluid (CSF) pressures and normal CSF composition. The patient’s initial symptoms of headache and blurred vision were managed with medication and serial lumbar punctures. At 23 weeks' gestation the patient underwent surgery due to progressive visual loss. Although Idiopathic intracranial hypertension is a rare condition, it is important to consider it in the differential diagnosis of headache and vision loss, especially in pregnant or obese women.

Keywords: idiopathic intracranial hypertension, pregnancy, headache

NURSING ROLE IN CHILDREN WITH DISEASES OF THE DIGESTIVE SYSTEM

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Summary: Formation of the digestive system begins in the fourth week of gestation and ends in childhood. The main symptoms suggestive of disease digestive system are: anorexia, nausea, vomiting, constipation, diarrhea and abdominal pain. The most common diseases of the digestive system in children are non-infectious diarrhea - also known as simple indigestion (dyspepsia simplex), suffer mostly infants and infectious diarrhea (enterocolitis gastroenterokolit) dyspepsia toxica. The role of the nurse in the diseases of the digestive system is expressed in the fact that she must know all the symptoms and syndromes and promptly respond and taking high quality and effective care for the children in the ward.

Keywords: digestive system, nursing role

BEHAVIOR OF THE NURSE IN THE TREATMENT OF ADDISON’S DISEASE

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Summary: In 1855 Thomas Addison described 11 patients with clinical syndrome characterized by salt loss and hyperpigmentation. Later the disease is named after Addison. Addison's disease is a result of a pathological process in the adrenals, which leads to mineralocorticoid insufficiency, glucocorticoid and sex steroid insufficiency. The
disease progresses slowly and gradually with development of four basic disease syndromes: astheno-adynamic, pigmentation of the skin and the mucous membrane, hypotonia and gastrointestinal disorders. After the disease is diagnosed, immediate endocrinology treatment is required. After the patient is admitted to hospital, the nurse evaluates his or her condition - chronic or urgent. The urgent condition is the Addison crisis, which has to be treated immediately and adequately in order to save the patient’s life - the nurse ensures permanent central venous access and performs the doctor’s instructions – infusions, medications, regimen and diet.

**Keywords:** Addison’s disease, treatment, behavior, nurse

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**THE ROLE OF THE NURSE WHEN DEALING WITH PATIENTS WITH DISEASES OF THE LIVER AND THE BILIARY TRACT AT THEIR HOMES**

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Liver function. The liver is a large blood-forming organ, which occupies a major portion of the abdominal cavity. Blood from the stomach, intestines, pancreas and the spleen passes through it. Function of the gall bladder. The gall bladder is an accessory organ of the digestive system, whose main function is to store biliary juice, necessary in the process of digestion. The most important diseases as a result of dysfunction of these organs are: liver steatosis, liver cirrhosis, gall stones, chronic hepatitis. The treatment of these conditions is conducted at the patient’s home and it is the duty of the nurse to give care and train the patient and his or her relatives how to manage complications, causing difficulties in performing daily activities and the possible prevention methods.

**Keywords:** liver, biliary tract, diseases, role of the nurse

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**THE INVOLVEMENT OF NURSES IN THE PREVENTION AND CARE IN THE TREATMENT OF AFFECTIVE DISORDERS**

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Summary: Affective disorders are characterized with mood changes, which occur in phases. Recovery intervals occur between them and regardless of the disease duration and the number of phases significant personality changes are not developed. An important clinical and theoretical issue in affective psychoses is their nosological nature and classification. Affective disorders are divided into two groups: unipolar and bipolar. In patients with affective disorders hospitalization is required, whenever their behavior is of antisocial nature. The treatment is carried out with the active participation of the nurse who prepares an individual care plan, which includes all the activities and events from the admission to the discharge of the patient.

**Keywords:** affective disorders, treatment, nurse, care
DOXORUBICIN AND CARDIOTOXICITY

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Introduction: The aim of present work is to reveal toxicology of doxorubicin.

Material and methods: Systematic approach and a critical analysis of the available scientific periodicals of the problem

Results and discussion: Anthracyclines find vital uses in the treatment of cancer. Doxorubicin-Dox is one of the most important anti-cancer chemotherapeutic drugs, being widely used for the treatment of solid tumors, acute leukemias tumors and other kind of malignancies.

The action of doxorubicin and other anthracycline drugs has been intensively investigated during the last several decades. A typical side effect observed with few agents of this class is dose-dependent cardiotoxicity. The clinical use of doxorubicin is restricted due to its severe cardiotoxic side-effects.

The mechanisms causing cardiotoxicity have not been clearly elucidated, but known to involve, at least in part, oxidative stress, mitochondrial dysfunction and apoptosis. Oxidative stress has been established as the primary cause of cardiotoxicity. More recently, it has been suggested that dysregulation of autophagy may also play an important role in Dox-induced cardiotoxicity. However, interventions reducing oxidative stress have not been successful at reducing the incidence of cardiotoxicity in patients treated with doxorubicin.

Conclusion: There is a need for potential pharmacological interventions and treatment options to prevent or reverse this specific type of heart failure.

Keywords: anthracyclines, doxorubicin, cardiotoxicity

EFFECT OF SOCIAL ISOLATION ON BEHAVIOR AND OXIDATIVE STRESS IN RATS

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Social isolation may be a powerful stressor and produce changes in animal behavior.

Purpose: The aim of the present study was to investigate the effect of social isolation (SI) on behavior and oxidative stress in male Wistar rats.

Material and methods: Experimental rats (n=12) were isolated in individual cages while the controls (n=12) were living together in two groups for a period of 5 weeks which was further extended to 9 and 13 weeks. At the end of each experimental period, open field test (OFT) was performed for investigation of locomotor activity. The forced swim test (FST) for estimation of depression-like behavior was performed after the 13th week. At the end of the experiment, oxidative stress was evaluated by the concentration of thiobarbituric acid reacting substances (TBARS) in rat brain and serum.

Results: The OFT showed that SI caused a significant decrease in the time spent in the central squares (p<0.01 and p<0.05 vs. control after 5 and 9 weeks), in the grooming time (p<0.01 and p<0.001 vs. control after 9 and 13 weeks), and also in vertical locomotor activity (p<0.001 and p<0.05 vs. control after 5 and 13 weeks), and an insignificant decrease in horizontal activity. In the FST there were no significant differences between control and isolated rats. A tendency for elevation of TBARS was observed in the brain and serum of isolated rats.

Conclusion: SI induced anxiogenic behavior which was most pronounced after the 5th week and gradually declined thereafter. SI caused a time-dependent reduction of grooming indicative of apathy and bodily neglect. The changes in behavior were accompanied by a tendency for elevation of oxidative stress markers in rat serum and brain.

Keywords: social isolation, behavior, oxidative stress, rats
ANTIMICROBIAL PROPERTIES OF ALLIUM SATIVUM (GARLIC): A REVIEW OF THE RECENT RESEARCH

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Background: Allium sativum L. (garlic) is used in traditional Bulgarian medicine for a long time. The major active compound in garlic – allicin is known to exert antibacterial, antifungal and antiviral activity by inhibiting certain thiol-containing enzymes found in microorganisms. Allicin is synthesized from the precursor alliin if the clove is crushed, with participation of the enzyme alliinase.

Results: This review collects and summarizes the data from recent studies on antibacterial, antifungal and antiviral activity of garlic and particularly allicin. The antibacterial activity of allicin has a wide spectrum. Various gram-negative and gram-positive bacteria such as Salmonella, Staphylococcus, Klebsiella, Proteus, Clostridium, Escherichia and Bacillus are known to be allicin-sensitive. Moreover, an antiulcer potential of garlic can be suggested, based on the inhibitory effects of its aqueous extracts on Helicobacter pylori. Along with the antibacterial activity of garlic and particularly allicin, some studies report also for their potential to inhibit the growth of yeasts and fungi.

Some studies reveal high antiviral properties of ajoene – a product of allicin transformation. Ajoene reduces the replication and penetration of the Influenza virus (A/H1N1) in canine kidney cells. The antiviral activity of garlic preparations are estimated in in vitro studies with Influenza B, Herpes Simplex and Coxsackie viruses.

Conclusions: In conclusion, allicin from garlic shows clear antibacterial and antifungal effects, while ajoene-an allicin condensation product inhibits viral proliferation. The antimicrobial properties of garlic are lost when the thiosulfinates (e.g. allicin) are removed from the extract.

Keywords: garlic, allicin, ajoene, antimicrobial

HYPOGLYCEMIC ACTIVITY OF AGRIMONIA EUPATORIA L. TEA IN NORMAL- AND OVERWEIGHT SUBJECTS

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Aims: Based on the traditional medical use of Agrimonia eupatoria (Agrimony), a herb commonly found in Europe, Asia and Africa, we have decided to further test its effect on the human organism in relation to glucose and lipid metabolism in regard to its possible use as a preventive drug.

Methods: Our study aimed on evaluating the effects of daily consumption of 250 ml Agrimony tea for a period of 25 days. For our study we had 21 test subjects with normal weight (BMI <= 25, NW) and 16 with over weight (BMI >25, OW). All subjects were aged between 20-60 years. At the beginning and end of the intervention period BMI was calculated and fasting glucose, HDL-cholesterol (HDL-C), LDL-cholesterol (LDL-C) and triglycerides (TG) levels were measured on an automatic biochemical analyzer using commercial kits.

Results: We observed a significant decrease in fasting blood glucose level by 4.9% in NW group (p<0.05) and by 18% in the OW group (p<0.001). In NW subjects, increased by 10.7% (p<0.05) TG levels were established. Changes in cholesterol levels were also observed - a decrease in HDL-C levels by 4.78% (p<0.01) for NW and 2.1% (p<0.05) for OW. LDL-Cholesterol decreased non-significantly in both study groups.

Conclusions: In addition to results of previous studies based on animal models, a hypoglycemic activity of Agrimony was demonstrated supporting its uses in folk medicine to treat diabetes. The results concerning changes in TG, HDL-C and LDL-C levels were inconclusive and require further study and analyses.

Keywords: agrimony, glucose, obesity
EVALUATION THE CONDITION OF FIRST MOLARS AS THE MAIN PHYSIOLOGICAL CENTER OF MASTICATION AMONG YOUNG ADULTS USING THE CRITERIA OF DMFT INDEX

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Introduction: The Decayed, Missing, Filled, Tooth (DMFT) index has been used for more than 70 years and is well established as the key measure of caries experience in dental epidemiology.

Objective: Determining dental caries experience prevalence and severity in students applying for degree courses of Faculty of dental medicine, Medical university – Varna.

Materials and methods: A cross-sectional study was carried out involving young adults (19-25 years old) applying in different courses at FDM (~ 20% n=427). The criteria of the DMFT index were used and a questionnaire to assess the quality of life. SPSS 17.0 was used for statistical analysis.

Results: Male were 50%, female – 50%. Male had higher caries experience than female (p<0.05). Age was associated with both experience (p<0.001) and prevalence (p<0.01) and to differing degrees of caries severity (p<0.001).

Conclusions: High dental caries experience, prevalence and severity were observed in this sample of young adults.

Keywords: oral health, dental caries, young adults, DMFT index.

PERIODONTAL TREATMENT WITH LASER APPLICATION

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The paper presents potential applications of laser technology in dental practice. In oral health care the number and range of laser-based technologies have expanded quickly. Numerous laser systems are available for dental use. The use of lasers for periodontal treatment becomes more complicated because the periodontium consists of both hard and soft tissues.

Related articles were gathered and selected and reviewed. After systematic and objective collection of data current lasers and their application are presented. Among the many lasers available, high power lasers and diode lasers can be used in periodontics. The use of these lasers is limited to gingivectomy, frenectomy and similar soft tissue procedures including the removal of melanin pigmentation of gingiva.

Advantages and disadvantages of laser threats are presented. In addition to their surgical applications, low-level lasers are selected and some empirical results promoted. The paper presents standards outlined either explicitly or implicitly with regard to dentistry and responsibilities associated with safety in using lasers designed for dentistry.

There is a great potential for laser systems to be developed further to include additional features and advantages of laser treatment. In periodontics there are effective and efficient soft and hard tissue ablation. Laser treatment is expected to serve as an alternative or adjunctive to conventional mechanical periodontal treatment and needs patient’s motivation to have a successful periodontal treatment in long term.

Keywords: laser, periodontitis
ADVANCED COMBINED PROSTHODONTICS WITH BAS SYSTEM

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Purpose. Bar systems may be utilized for overdentures, removable partial dentures, and implant prosthesis. Bars may be rigid or resilient, permitting free movement of the prosthesis to direct forces away from the retaining abutments to the supportive bone and tissue.

The shape of the bar is indicated by the amount of room available, by the shape of the alveolar ridge, and the type of construction. However, we recommend the round plasti-wax bar, which may be more easily bent to follow the alveolar crest.

Materials and methods. Bars (Intercoronal connecting element)

Design:
- Individual attachment
- Parallel-wall internal part of bar, bar matrix
- Straight line or curved line
- Basal with contact or without contact (can be rinsed thoroughly)

Indications:
- Primary splinting with reduced residual dentition
- Anterior or superior region
- Between primary crowns (tooth-bounded situation)
- With implant-supported denture

Advantages:
- Stabilizing connecting elements
- High support value
- Primary crowns still firmly connected with each other even when the frame is taken out (e.g. at night)

Disadvantages:
- Dubious with regard to periodontal hygiene (basal food trap) Internal part of bar difficult to clean
- If the bar is not in contact with mucosa, there is a risk of tissue proliferation/hypertrophy
- Critical in event of abutment loss

Modification:
- Additionally activatable bar sleeve
- With recess of locking device (also as bar appendix)
- With integrated push-button anchor
- With tread for screwed connection
- With hole for inserting reactivation pins

Keywords: partial denture, bar systems, implant overdenture, bone-implant interface, hader bar
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МЕДИЦИНСКИ УНИВЕРСИТЕТ „ПРОФ. Д-Р ПАРАСКЕВ СТОЯНОВ“
ВАРНА, БЪЛГАРИЯ

МЕДИЦИНСКИ УНИВЕРСИТЕТ
„ПРОФ. Д-Р ПАРАСКЕВ СТОЯНОВ“
ВАРНА, БЪЛГАРИЯ

ВАРНЕНСКИ МЕДИЦИНСКИ ФОРУМ

том 1, 2012, брой 1, приложение 1