



GOCE DELCEV UNIVERSITY - STIP
FACULTY OF MEDICAL SCIENCES



International symposium at
Faculty of medical sciences

CURRENT ACHIEVEMENTS AND FUTURE PERSPECTIVES IN MEDICAL AND BIOMEDICAL RESEARCH



STIP, 24 NOVEMBER 2015
MULTIMEDIA CENTRE – UGD, STIP

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES
“Current achievements and future perspectives in medical and biomedical research”

SCIENTIFIC PROGRAM

November 24, 2015 - Stip

8:30 – 9:00

Registration

9:00 – 9:15

Rector / Vice rector/Dean

SESSION 1

Chair: Prof. Emilija Janevik Ivanovska

Co-chair: Ass. Prof. Elena Drakalska

9:15 – 9:35

Ass. Marija Darkovska Serafimovska
Macedonian agency of drug and medical
devices, Director
University Goce Delcev Stip
Republic of Macedonia

Step forward of Macedonian agency for medicines and medical devices, establishment and strategic plan for development

9:35 – 9:55

Assoc. Prof. Zorica Arsovska Sarafinovska
Institute of Human Health, Skopje,
University Goce Delcev Stip
Republic of Macedonia

Adherence to Therapy: A Modern Pharmacotherapeutic Approach

9:55 – 10:15

Prof. Biljana Gjorgjeska
University Goce Delcev Stip
Republic of Macedonia

Use of disinfectants and antiseptics in the health institution in Republic of Macedonia

10:15 – 10:35

Assoc. Prof. Bistra Angelovska
University Goce Delcev Stip
President of Pharmaceutical Chamber
of Macedonia. Republic of Macedonia

Code of Ethics for Pharmacists – Pharmaceutical Chamber of Macedonia

10:40 – 11:10

Coffee break

Poster presentation

SESSION 2

Chair: Prof. Milka Zdravkovska

Co-chair: Ass. Prof. Darinka Gjorgieva Ackova

10:10 – 11:50

Prof. Neven Zarkovic
Rudjer Boskovic Institute, Croatia

4-Hydroxynonenal – major bioactive marker of lipid peroxidation

11:50 – 12:10

Assoc. Prof. Tatjana Ruskovska University
Goce Delcev Stip Republic of Macedonia

Nicotinamide adenine dinucleotide biosynthesis and consumption in dysfunctional white adipocytes

12:10 – 12:30

Prof. Rubin Gulaboski University
Goce Delcev Stip Republic of Macedonia

New insights into the chemistry and functions of Coenzyme Q

12:30 – 12:50

Assoc. Prof. Darko Bosnakovski
University Goce Delcev Stip
Republic of Macedonia

Genetically modified systems to study muscular dystrophies

12:50 – 14:00

Coffee break

Poster presentation

SESSION 3

Chair: Assoc. Prof. Cena Dimova

Co-chair: Ass. Prof. Nevenka Velickova

14:00 – 14:40	Prof. Lia Rimondini Università del Piemonte Orientale, Novara, Italy	<i>Counteracting microbial biofilm formation onto dental materials</i>
14:40 – 15:00	Prof. Elizabeta Zisovska Agency for Quality and Accreditation of Healthcare Institutions, Skopje, Republic of Macedonia	<i>The endless potential of the umbilical cord blood for investigation, research and treat- ment</i>
15:00 – 15:20	Ass. Misko Milev University Goce Delcev Stip Republic of Macedonia	<i>The cytokinesis-blocked micronucleus assay: Good choice for detection and evaluation of genotoxicity in human cells</i>
15:20 – 15:40	Prof. Lence Miloseva University Goce Delcev Stip Republic of Macedonia	<i>Multiple predictive model for clinical and subclinical depression in adolescence</i>
15:40 – 16:00	Coffee break	Poster presentation

SESSION 4

Chair: Assoc. Prof. Darko Bosnakovski

Co-chair: Ass. Prof. Katarina Smilkov

16:00 – 16:40	Prof. Adriano Duatti University of Ferrara, Ferrara, Italy	<i>Molecular imaging and radionuclide therapy of prostate cancer</i>
16:40 – 17:00	Assoc. Prof. Vaso Taleski University Goce Delcev Stip Republic of Macedonia	<i>Where Nanotechnology and Nanomedicine meet – Applications and Potential Risks</i>
17:00 – 17:20	Dr. Aleksandar Cvetkovski University Goce Delcev Stip Republic of Macedonia	<i>The role of molecular cocrystals in drug devel- opment</i>
17:20 – 17:40	Prof. Emilija Janevik Ivanovska University Goce Delcev Stip Republic of Macedonia	<i>Drug development based on radiolabeled antibodies</i>
17:40 – 18:00	Closing remarks	

EDITOR IN CHIEF

Assoc. Prof. Darko Bosnakovski, University "Goce Delcev" Stip

INTERNATIONAL EDITORIAL BOARD

Prof. Rubin Gulaboski, University "Goce Delcev" Stip

Prof. Emilija Janevik Ivanovska, University "Goce Delcev" Stip

Assoc. Prof. Bistra Angelovska, University "Goce Delcev" Stip

Assoc. Prof. Tatjana Ruskovska, University "Goce Delcev" Stip

Prof. Milka Zdravkovska, University "Goce Delcev" Stip

Assoc. Prof. Cena Dimova, University "Goce Delcev" Stip

Prof. Biljana Gjorgjeska, University "Goce Delcev" Stip

Prof. Dr. Guenka Petrova, Medical university in Sofia, Bulgaria

Prof. Angel Galabov, Bulgarian Academy of Science, Bulgaria

Prof. Dr. Jörg Babin-Ebell, University of Marburg, Germany

Prof. Dr. Günter Niklewski, Paracelsus Medical University, Nuremberg, Germany

Prof. Ivan Bogeski, Saarland University, Germany

Prof. Markus Hoth, Saarland University, Germany

Peter Bossew, German Federal Office for Radiation Protection, Berlin, Germany

Assoc. Prof. Aleksandar Mitic, Faculty of medicine, University of Nis, Serbia

Prof. Dr. Lazar Ranin, University of Belgrade, School of medicine, Serbia

Prof. Dragan Petrovic, Faculty of Medicine, University of Nis, Serbia

Prof. Dr. Tatjana Vukosavljević-Gvozden, University of Belgrade, Belgrade, Serbia

Zora S. Zunic, University of Belgrade, Institute of Nuclear Sciences Vinca, Belgrade, Serbia

Prof. Teodor Traistaru, "Carol Davila" University of medicine and pharmacy, Bucharest, Romania

Prof. Dr. Alexandru Eugen Petre, "Carol Davila" University of medicine and pharmacy, Bucharest, Romania

Prof. Lia Rimondini, Università del Piemonte Orientale, Novara, Italy

Prof. Neven Zarkovic, "Rudjer Boskovic Institute", Croatia

Prof. Asia Celebic, University of Zagreb, Croatia

Dr. sc. Milena Jadrijević-Mladar-Takač, Faculty of Pharmacy and Biochemistry, University of Zagreb, Croatia,

Prof. Fernanda Borges, University of Porto, Portugal

Jadwiga Mazur, Institute of Nuclear Physics Krakow, Poland

Prof. Marzena Dominiak, Medical University of Wroclaw, Poland

Prof. Istvan Szilard, University of Pec Medical School, Hungary

Prof. Adriano Duatti, University of Ferrara, Ferrara, Italy

Prof. Neil G. Hartman, Purdue University, USA

Prof. Kara Duncan Weatherman, Purdue University College of Pharmacy, West Lafayette, USA

Prof. David Bernlohr, Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota - Twin Cities

Prof. Meera Venkatesh, International Atomic Energy Agency, IAEA, Vienna, Austria

Prof. Lajos Balogh, Faculty of Veterinary Medicine and Department of Isotopes Applications NIRR, Budapest, Hungary

Prof. Joao Osso Jr, International Atomic Energy Agency, IAEA, Vienna, Austria

Dr. Uday Bhonsle, International Atomic Energy Agency, IAEA, Vienna, Austria

Prof. Remo Guerrini, University of Ferrara Italy

Prof. Enzo Palmieri, University of Padua, Italy

Prof. Jean-Noel Talbot, AP-HP and University Pierre et Marie Curie, France

Prof. Philip Elsinga, University Medical Center Groningen, Netherlands

Dr. Sergei Nazarenko, North Estonia Medical Centre, Estonia

Prof. Ana Marusic, University of Split School of Medicine, Croatia

Prof. Urelja Rodin, University of Zagreb Medical School, Croatia,

Ahmed Novo, AKAZ, Bosnia and Herzegovina

LOCAL EDITORIAL BOARD

Prof. Lence Miloseva, University "Goce Delcev" Stip

Prof. Gorgi Sumanov, University "Goce Delcev" Stip

Assoc. Prof. Ivona Kovacevska, University "Goce Delcev" Stip

Assoc. Prof. Vaso Taleski, University "Goce Delcev" Stip

Assoc. Prof. Zdenka Stojanovska, University "Goce Delcev" Stip

Ass. Prof. Svetlana Jovevska, University "Goce Delcev" Stip

Ass. Prof. Nevenka Velickova, University "Goce Delcev" Stip

Ass. Prof. Velo Markovski, University "Goce Delcev" Stip

Ass. Prof. Kiro Papakoca, University "Goce Delcev" Stip

Ass. Prof. Lence Nikolovska, University "Goce Delcev" Stip

Ass. Prof. Elena Drakalska, University "Goce Delcev" Stip

Ass. Prof. Mire Spasov, University "Goce Delcev" Stip

Ass. Prof. Darinka Gorgieva Ackova, University "Goce Delcev" Stip

Ass. Prof. Katarina Smilkov, University "Goce Delcev" Stip

EDITORIAL STAFF

Milkica Janeva
Andonela Janeva

Tanja Janeva
Spase Stojanov
Mihail Aleksandrov

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES

“Current achievements and future perspectives in medical and biomedical research”

November 24, 2015 – Stip

ORAL PRESENTATIONS

1. **Step forward of Macedonian Agency for medicines and medical devices. Establishment and strategic plan for development**
Author: Ass. Marija Darkovska-Serafimovska
2. **Adherence to Therapy: A Modern Pharmacotherapeutic Approach**
Author: Ass. Prof. Zorica Arsovska Sarafinovska
3. **Use of disinfectants and antiseptics in selected health institutions in Republic of Macedonia**
Author: Prof. Biljana Gjorgjeska
4. **Code of Ethics for Pharmacists – Pharmaceutical Chamber of Macedonia**
Author: Prof. Bistra Angelovska
5. **4-Hydroxynonenal – major bioactive marker of lipid peroxidation**
Author: Prof. Neven Zarkovic
6. **Nicotinamide adenine dinucleotide biosynthesis and consumption in dysfunctional white adipocytes**
Author: Prof. Tatjana Ruskovska
7. **New insights into the chemistry and functions of Coenzyme Q**
Author: Prof. Rubin Gulaboski
8. **Genetically modified systems to study muscular dystrophies**
Author: Prof. Darko Bosnakovski
9. **Counteracting microbial biofilm formation onto dental materials**
Author: Prof. Lia Rimondini
10. **The endless potential of the umbilical cord blood for investigation, research and treatment**
Author: Prof d-r Elizabeta Zisovska
11. **The cytokinesis-blocked micronucleus assay: Good choice for detection and evaluation of genotoxicity in human cells**
Author: Ass. Misko Milev
12. **Multiple predictive model for clinical and subclinical depression in adolescence**
Author: Prof. Lence Miloseva
13. **Molecular Imaging and therapy with radionuclides of prostate cancer**
Author: Prof. Adriano Duatti
14. **Where Nanotechnology and Nanomedicine meet – Applications and Potential Risks**
Author: Prof. Vaso Taleski
15. **The role of molecular cocrystals in drug development**
Author: Ass. Aleksandar Cvetkovski
16. **Drug development based on radiolabeled antibodies**
Author: Prof. Emilija Janevik

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES

“Current achievements and future perspectives in medical and biomedical research”

November 24, 2015 – Stip

POSTER PRESENTATIONS

1. **Correlation between dynamic balance and gait parameters in patients with ischemic stroke in the chronic period**
Authors: Danche Vasileva, Daniela Lubenova, Marija Mihova, Ivan Maznev, Lence Nikolovska, Zhu Jihe;
2. **Effect of kinesitherapy on physical activity in patient with Guillain-Barré syndrome**
Authors: Antoaneta Dimitrova, Kristin Petrova Grigorova, Daniela Lubenova, Danche Vasileva, Milena Nikolova;
3. **Case Report :
Oligoasthenoteratozoospermia, treatment with acupuncture**
Authors: Jihe Zhu, Blagica Arsovska, Danche Vasileva, Andrijana Sterjovska-Aleksovska, Kristina Kozovska;
4. **Treatment of cervical spondylosis with acupuncture**
Authors: Kristina Kozovska, Jihe Zhu, Blagica Arsovska, Andrijana Sterjovska-Aleksovska;
5. **Effect of kinesitherapy on static and dynamic balance in patient after vertebro-basilar system stroke**
Authors: Milena Nikolova, Antoaneta Dimitrova, Danche Vasileva, Daniela Lubenova, Kristin Petrova Grigorova;
6. **Malignant pleural effusions in lung cancer: the condition during the disease**
Authors: Marija Karakolevska-Ilova, Elena Simeonovska Joveva, Aleksandar Serafimov, Lidija Petrovska;
7. **Systemic fungal infections in hematological malignancies**
Authors: Petar Kuzmanovski, Velo Markoski;
8. **Morbidity and mortality of malignant neoplasms in Macedonia**
Authors: Viktorija Vukovikj, Velo Markoski;
9. **Cognitive behavioral program in treating insomnia among elderly patients**
Authors: Kneginja Richter, Lence Miloseva, Guenter Niklewski, Anja Piehl;
10. **Regulations and legal aspects in management of medical waste**
Authors: Biljana Shikoska, Cena Dimova, Gjorgi Schumanov;
11. **Control of the psychiatric disorders in the Republic of Macedonia**
Authors: Leonid Ramov, Velo Markoski;
12. **Monitoring of the renal function in Indometacin treated patients with rheumatoid arthritis**
Author: Drita Yzeiri Havziu;
13. **Incidence of breast cancer in Macedonia**
Authors: Dijana Stojanova, Velo Markoski;
14. **HPV virus as a cause of cancer of the cervix in R.Macedonia**
Authors: Stefaniya Joveva, Velo Markoski, Vaso Taleski;
15. **Analysis of the Pap test results by age groups in the area of Kriva Palanka**
Authors: Robert Nikolovski, Kristina Denchovska, Goran Mladenovski, Velo Markovski;
16. **Giant rhinophyma treated by excision and full thickness skin grafting**
Author: Emilija Lozanovska Doneva;

17. Incidence of patients with chronic renal failure in Skopje

Authors: Simona Kamceva, Velo Markoski;

18. Calculation of effective dose to family members of patients with thyroid diseases

Authors: Marina Zdravevska Kochovska, Emilija Janjevik Ivanovska, Meri Angeleska, Sasho Nikolovski, Zlatko Filipovski;

19. Contemporary Microbiological Diagnostic Tests for Rapid Identification and Detection of Resistance of Mycobacterium tuberculosis

Authors: Oliver Taleski, Vaso Taleski;

20. Analysis of clinical features and complications in patients with β -thalassemia in the region of Strumica

Authors: Silvana Sinokapovska, Cena Dimova;

21. Lymphoepithelioma : A case report

Author: Vase Stojcheska;

22. F-ra Capitullum Radii L.Dex. – A Case report

Author: Svetlana Jovevska;

23. Patient with intracranial hemorrhage and arteriovenous malformation detected with transcranial color duplex sonography – case report

Authors: Elena Simeonovska Joveva, Marija Karakolevska-Ilova, Aleksandar Serafimov, Lidija Petrovska;

24. Hereditary supracondylar spur of the humerus: Case report

Authors: George Zafiroski, Strahil Todorov, Christian Lozanoski;

25. Prosthetic rehabilitation in patient with advanced degree of functional disorders (case report)

Authors: Natasa Denkova, Katerina Zlatanovska, Ana Radeska-Panovska, Sanja Nashkova, Ivona Kovacevska;

26. Marginal Implants Bone Loss – a Case Report

Authors: Kiro Papakoca, Ana Radeska-Panovska, Katerina Zlatanovska;

27. Ectodermal Dysplasia, a Case Report: Challenge for Prosthodontic Solution

Authors: Emilija Bajraktarova Valjakova, Bajevska Jagoda, Vesna Korunoska Stevkovska, Biljana Kapushevsk, Nikola Gigovski, Aneta Mijoska, Katerina Zlatanovska, Cvetanka Bajraktarova Mishevsk;

28. Alveolar socket preservation and shaping using temporary prosthetic construction – case presentation

Authors: Nikola K. Gigovski, Vesna Korunoska- Stevkoska, Emilija Bajraktarova, Aneta Mijoska, Ana Radeska-Panovska;

29. Porcelain veneers produced by refractory die method

Authors: Katerina Zlatanovska, Julija Zarkova-Atanasova, Ana Radeska, Natasa Denkova, Kiro Papakoca;

30. Correlation of Two Different Local Hemostatic Modalities in Oral Surgery Patients with Oral Anticoagulants

Author: Cena Dimova;

31. Assessment of orthodontic treatment need among school children by using iotn (index of orthodontic treatment need)

Authors: Ana Radeska-Panovska, Kiro Papakoca, Natasa Denkova, Ivona Kovacevska, Katerina Zlatanovska;

32. Oral Hygiene Level Maintenance among Dental Medicine Students

Authors: Darko Kochovski, Verica Toneva;

33. Poor oral hygiene and show of caries in 12 year old children

Author: Sanja Naskova;

34. Implant-prosthetic therapy failure in smoker and nonsmoker patients

Authors: Aneta Mijoska, Mirjana Popovska, Nikola Gigovski, Vesna Korunoska- Stevkoska, Emilija Bajraktarova, Katerina Zlatanovska;

35. **Oral surgery treatment in the patients with combination syndrome**
Authors: Vesna Korunoska Stevkovska, Nikola Gigovski, Katerina Zlatanovska, Emilija Bajraktarova, Aneta Mijoska;
36. **Iatrogenic mistakes, cause for a failure at surgical treatment of a chronic periapical processes**
Authors: Sarita Kadrova, Cena Dimova;
37. **Evaluation of Different Preparation of Artificial Teeth and Acrylate Prosthetic Base**
Authors: Pavle Apostoloski, Cena Dimova, Katerina Zlatanovska, Julija Zarkova;
38. **Analysis of the dimensional stability of elastomeric silicone impression materials**
Authors: Galaba Veresa, Cena Dimova, Julijana Miloseva
39. **Use of gypsum into working everyday in dental technician**
Author: Hadis Arslanov
40. **Mobile dental NOG-types used in working dental models**
Author: Julija Vladikova
41. **Determining normal tissue toxicity of non-radioactively Lu/Y-labeled rituximab-conjugates in rat animal model**
Author: Darinka Gjorgieva Ackova;
42. **Genetically Engineered Mouse Models For Human Pancreatic Cancer: A Review Of The KC, KPC And iKRas*P53* Models**
Authors: David Mwanza Wankeh, Joel Munene Muchira, Aschalew Alemu Marie, Darko Bosnakovski;
43. **Mouse Models For Human Prostate Cancer: Xenograft Vs Genetically Engineered Mouse Model**
Authors: Aschalew Alemu Marie, Joel Munene Muchira, David Mwanza Wankeh, Darko Bosnakovski;
44. **HER2 Transgenic Mouse Models: A Way To HER2+ Breast Cancer Targeted Therapy**
Authors: Joel Munene Muchira, David Mwanza Wankeh, Aschalew Alemu Marie, Darko Bosnakovski;
45. **Types of scaffolds and thier application in bone tissue engineering**
Author: Milena Volcheva, Darko Bosnakovski;
46. **Significance of preparation of tissue samples for electron microscopy for observation and diagnosis**
Authors: Jovanka Laskova, Gordana Petrusevska, Darko Bosnakovski;
47. **Design and characterization of nanoparticles as platforms for delivery of curcumin**
Author: Elena Drakalaska;
48. **Freeze-drying approach to enhance antibody stability**
Author: Katarina Smilkov;
49. **An overview of phytosomes as a novel herbal drug delivery system**
Authors: Emilija Apostolova, Brankica Spaseska, Maja Simonoska Crcarevska, Maja Glavash Dodov, Renata Slaveska Raichki;
50. **Determination of active pharmaceutical ingredient – chloropyramine in dragées**
Author: Vesna Kostik;
51. **Comparison of volatile aroma compounds between cultivated and spontaneous flowering stems of Sideritis scardica Griseb. from R. Macedonia**
Author: Bujar Qazimi;
52. **Bioactive compounds of cold-pressed oil from the seeds of Gojy Berry (Lycium barbarum)**
Author: Sanja Kostadinovik Velickovska;
53. **Development and validation of HPLC method for determination of flavonoids in herbal preparations**
Authors: Tanja Janeva, Zorica Arsova-Saradinovska;
54. **Atomic emission spectrometry with inductively coupled plasma (ICP-AES) analysis of trace elements in Camellia sinensis teas**
Authors: Dragica Doneva, Trajce Stafilov, Zorica Arsova-Saradinovska, Katerina Starkoska, Maja Shishovska;

55. **Determination of trace elements analyzed by atomic emission spectrometry with inductively coupled plasma (ICP-AES) in *Matricaria chamomilla* L. teas present on macedonian market**
Authors: Dragica Doneva, Trajce Stafilov;
56. **Human health risks from heavy metals via consumption of contaminated food**
Authors: Biljana Balabanova, Rubin Gulaboski;
57. **Development of an ultrasonic method for effective extraction of capsaicin as a potent bioactive compound**
Authors: Viktorija Maksimova, Liljana Koleva Gudeva, Blaga Radovanovic, Rubin Gulaboski;
58. **Electrochemical analysis of the properties of benzene-1,2,4-triol**
Authors: Milkica Janeva, Rubin Gulaboski;
59. **Comparison of the procedure for registration of medicines in the European Union and the Republic of Macedonia**
Author: Sofija Petkovska;
60. **Pharmacoeconomic evaluation of the antibiotic prophylaxis in orthopedic surgeries**
Authors: Dijana Atanasova, Bistra Angelovska, Biljana Lazarova;
61. **Therapeutic approach in the treatment of benign prostatic hyperplasia**
Authors: Rozeta Aceva, Zorica Arsova – Sarafinovska;
62. **Oxidative stress, aging and antioxidants**
Authors: Viktorija Trajkoska, Zorica Arsova Sarafinovska;
63. **Oxidative stress, oxidative DNA damage and prostate cancer**
Authors: Evgenija Nedelkoska, Zorica Arsova-Sarafinovska;
64. **RNA interference (RNAi) mechanism as a basis for future successful treatment of chronic hepatitis B infection**
Author: Ana Nikolova, Darko Bosnakovski;
65. **Anti-cancer target therapy based on drugs conjugated to hyaluronic acid**
Authors: Marija Zafirova, Darko Bosnakovski;
66. **Cancer specific conjugated monoclonal antibodies for anticancer therapy**
Authors: Daniela Todosiova, Darko Bosnakovski, Emilija Janevik Ivanovska;
67. **Accreditation of the Laboratory of Radiopharmacy – requested requirements or need of challenge**
Author: Katarina Delipetreva;
68. **Quality control of PET radiopharmaceuticals, with reference to its specifics vs quality control of conventional pharmaceuticals**
Authors: Filip Jolevski, Maja Velickovska, Maja Chochevska, Marija Atanasova, Katerina Kolevska, Emilija Janevik-Ivanovska;
69. **Production of [11C] Choline in The University Institute for PET – new perspective in diagnostics of prostate malignancy in R. of Macedonia**
Authors: Katerina Kolevska, Maja Chochevska, Marija Atanasova, Maja Velickovska, Filip Jolevski, Emilija Janevik-Ivanovska;
70. **PET radiopharmaceuticals in the diagnosis of neurological diseases**
Authors: Marija Pandeva, Emilija Janevik-Ivanovska;
71. **Achievements and perspectives in formulation of stable immunoconjugate of the HER2-targeting trastuzumab – potential for rapid labelling with Gallium-68**
Author: Marija Sterjova



Faculty of Medical Sciences

University Goce Delcev – Stip, Macedonia

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES

**“Current achievements and future perspectives in
medical and biomedical research”**

BOOK OF ABSTRACTS

November 24, 2015 – Stip

Contents

ORAL PRESENTATIONS	10
Step forward of Macedonian Agency for medicines and medical devices	
Establishment and strategic plan for development.....	11
Adherence to Therapy: A Modern Pharmacotherapeutic Approach.....	12
Use of disinfectants and antiseptics in selected health institutions in Republic of Macedonia	14
Code of Ethics for Pharmacists – Pharmaceutical Chamber of Macedonia.....	15
4-Hydroxynonenal – major bioactive marker of lipid peroxidation	16
Nicotinamide adenine dinucleotide biosynthesis and consumption in dysfunctional white adipocytes.....	17
New Insights into the Chemistry and Functions of Coenzyme Q.....	18
Genetically modified systems to study muscular dystrophies	19
Counteracting microbial biofilm formation onto dental materials.....	20
The endless potential of the umbilical cord blood for investigation, research and treatment.....	21
The cytokinesis-blocked micronucleus assay: Good choice for detection and evaluation of genotoxicity in human cells	23
Multiple predictive model for clinical and subclinical depression in adolescence	24
Molecular Imaging and therapy with radionuclides of prostate cancer	25
Where Nanotechnology and Nanomedicine meet – Applications and Potential Risks	27
The role of molecular cocrystals in drug development.....	29
Drug development based on radiolabeled antibodies.....	30
POSTER PRESENTATIONS	31
Correlation between dynamic balance and gait parameters in patients with ischemic stroke in the chronic period.....	32
Effect of kinesitherapy on physical activity in patient with Guillain-Barré syndrome.....	33
Case Report : Oligoasthenoteratozoospermia, treatment with acupuncture	34
Treatment of cervical spondylosis with acupuncture.....	36
Effect of kinesitherapy on static and dynamic balance in patient after vertebro-basilar system stroke	37
Malignant pleural effusions in lung cancer: the condition during the disease	38
Systemic fungal infections in hematological malignancies	40
Morbidity and mortality of malignant neoplasms in Macedonia	41
Cognitive behavioral program in treating insomnia among elderly patients	43
Regulations and legal aspects in management of medical waste	44
Control of the psychiatric disorders in the Republic of Macedonia.....	46
Monitoring of the renal function in Indometacin treated patients with rheumatoid arthritis.....	47
Incidence of breast cancer in Macedonia	48
HPV virus as a cause of cancer of the cervix in R.Macedonia	49
Analysis of the Pap test results by age groups in the area of Kriva Palanka	50
Giant rhinophyma treated by excision and full thickness skin grafting.....	52
Incidence of patients with chronic renal failure in Skopje.....	53
Calculation of effective dose to family members of patients with thyroid diseases	54
Contemporary Microbiological Diagnostic Tests for Rapid Identification and Detection of Resistance of Mycobacterium tuberculosis.....	56
Analysis of clinical features and complications in patients with β -thalassemia in the region of Strumica	57
Lymphoepithelioma: A case report.....	59

F-ra Capitulum Radii L.Dex. – A Case report	60
Patient with intracranial hemorrhage and arteriovenous malformation detected with transcranial color duplex sonography – case report.....	61
Hereditary supracondylar spur of the humerus: Case report.....	63
Prosthetic rehabilitation in patient with advanced degree of functional disorders (case report)	64
Marginal Implants Bone Loss – a Case Report.....	65
Ectodermal Dysplasia, a Case Report: Challenge for Prosthodontic Solution	66
Alveolar socket preservation and shaping using temporary	68
prosthetic construction – cases presentation	68
Porcelain veneers produced by refractory die method	69
Correlation of Two Different Local Hemostatic Modalities in Oral Surgery Patients with Oral Anticoagulants.....	70
Assessment of orthodontic treatment need among school children by using iotn (index of orthodontic treatment need)	72
Oral Hygiene Level Maintenance among Dental Medicine Students	73
Poor oral hygiene and show of caries in 12 year old children	74
Implant-prosthetic therapy failure in smoker and nonsmoker patients	75
Oral surgery treatment in the patients with combination syndrome	76
Iatrogenic mistakes, cause for a failure at surgical treatment of a chronic periapical processes	77
Evaluation of Different Preparation of Artificial Teeth and Acrylate Prosthetic Base.....	78
Analysis of the dimensional stability of elastomeric silicone impression materials.....	79
Use of Gypsum Into Working Everyday in Dental Technician	81
Mobile dental NOG types used in working dental models	82
Determining normal tissue toxicity of non-radioactively Lu/Y-labeled rituximab-conjugates in rat animal model.....	83
Genetically Engineered Mouse Models For Human Pancreatic Cancer: A Review Of The KC, KPC And iKRas*P53* Models.....	84
Mouse Models For Human Prostate Cancer: Xenograft Vs Genetically Engineered Mouse Model	85
HER2 Transgenic Mouse Models: A Way To HER2+ Breast Cancer Targeted Therapy	86
Types of scaffolds and their application in bone tissue engineering.....	87
Significance of preparation of tissue samples for electron microscopy for observation and diagnosis.....	88
Design and characterization of nanoparticles as platforms for delivery of curcumin.....	90
Freeze-drying approach to enhance antibody stability.....	91
An overview of phytosomes as a novel herbal drug delivery system	92
Determination of active pharmaceutical ingredient – chloropyramine in <i>dragées</i>	94
Compariton of volatile aroma compounds between cultivated and spontaneous flowering stems of <i>Sideritis scardica</i> Griseb. from R. Macedonia.....	95
Bioactive compounds of cold-pressed oil from the seeds of Goji Berry (<i>Lycium barbarum</i>).....	96
Development and validation of HPLC method for determination of flavonoids in herbal preparations	97
Atomic emission spectrometry with inductively coupled plasma (ICP-AES) analysis of trace elements in <i>Camellia sinensis</i> teas	98
Determination of trace elements analyzed by atomic emission spectrometry with inductively coupled plasma (ICP-AES) in <i>Matricaria chamomilla</i> L. teas present on macedonian market..	99
Human health risks from heavy metals via consumption of contaminated food	100

Development of an ultrasonic method for effective extraction of capsaicin as a potent bioactive compound	101
Electrochemical analysis of the properties of benzene-1,2,4-triol	102
Comparison of the procedure for registration of medicines in the European Union and the Republic of Macedonia	103
Pharmacoeconomic evaluation of the antibiotic prophylaxis in orthopedic surgeries.....	104
Therapeutic approach in the treatment of benign prostatic hyperplasia.....	105
Oxidative stress, aging and antioxidants.....	106
Oxidative stress, oxidative DNA damage and prostate cancer	108
RNA interference (RNAi) mechanism as a basis for future successful treatment of chronic hepatitis B infection	110
Anti-cancer target therapy based on drugs conjugated to hyaluronic acid	112
Cancer-specific conjugated monoclonal antibodies for anticancer therapy.....	113
Accreditation of the Laboratory of Radiopharmacy – requested requirements or need of challenge	115
Quality control of PET radiopharmaceuticals, with reference to its specifics vs quality control of conventional pharmaceuticals	117
Production of [¹¹ C]Choline in The University Institute for PET – new perspective in diagnostics of prostate malignancy in R. of Macedonia	118
PET radiopharmaceuticals in the diagnosis of neurological diseases	120
Achievements and perspectives in formulation of stable immunoconjugate of the HER2-targeting trastuzumab – potential for rapid labelling with Gallium-68.....	121

Significance of preparation of tissue samples for electron microscopy for observation and diagnosis

Jovanka Laskova¹, Darko Bosnakovski², Gordana Petrusevska¹

¹ Institute of Pathology, Medical Faculty, University "Ss Cyril and Methodius"-Skopje, 50-ta Divizija br.6 1000 Skopje, R.Macedonia

² Faculty of Medical Sciences, University Goce Delcev-Stip, Krste Misirkov b.b, 2000 Stip, R.Macedonia
+38978 30 55 88, laskova87@gmail.com

Abstract

Transmission Electron Microscopy (TEM) is used to provide descriptive, morphological information and plays important role in cell biology for the visualization of intracellular organelles. It uses a beam of electrons which passes through the specimen and provides an image of objects 1 nm in size. The aim of this study is to compare the varies of techniques that have been developed to prepare TEM specimen ready for observation and diagnosis.

Significance of preparation of the samples for EM requires precise execution of each step in the entire procedure. The standard procedure for sample preparation is described in the following steps: extraction of tissue, fixation and dehydration with different percentages of acetones, resin infiltration, followed by embedding and polymerization and ultramicrotomy. Following steps are crucial in sample preparations. Generally, formaldehyde as a fixative penetrates better into the tissue, but glutaraldehyde better preserves the structure. After initial fixation, we used osmium tetroxide as a second fixative for lipid preservation. During the dehydration step, water from the samples is removed by solvents such as ethanol or acetone, this prevents holes-artifacts in the sections. Infiltration and embedding in resin provides stability of the tissue sample and formation of indestructible and insoluble block, suitable for section on ultramicrotome. Finally ultramicrotomy produce semi-thin and ultrathin sections which contrast can be introduced using heavy metals such as uranyl acetate and lead citrate. The alternative procedure for sample preparation is from an already paraffin-embedded tissue previously treated by the method of histopathological analysis. The procedure is very similar and differs only initial but contributes to significant differences in the final quality of the specimen.

Tissue must be first deparaffinized in xylol, processed in serial diluents of ethanol in order, and then washed in PBS to remove residue xylol, continues with following steps of the standard procedure, starting with the glutaraldehyde fixation shortly, then with osmium tetroxide, dehydration with acetone, resin infiltration, embedding and polymerization. Modification in procedure is mostly emphasized during the ultramicrotomy.

Every step of the sample preparation is important for having a valid electron-microscopic image, and every modification can result in an inadequate results. The aim of this study was to compare alternative procedures, and we found that the method based on paraffin embedded samples has several disadvantages, including disruption of continuity of the tissue and low quality of the electron micrographs. But tissue already embedded in

paraffin still can be used for TEM although initially it was not intended to be analyzed by a transmission electron microscope. However, this method can be useful for diagnostic purposes.

Keywords

Sample preparation, TEM, paraffin embedding.