

Program of the 4th Conference "Current approach to health and diseases in animals and humans"

September 19th, 2019 (Thursday)

(Lecture Hall, Innovative Center of Animal Pathology and Therapy,
University of Life Sciences in Lublin, Głęboka 30)

- 14:00–14:10 Opening of the Conference
- 14:10–14:45 Inaugural lecture – **Vincenzo Longo** (Institute of Agricultural Biology and Biotechnology, National Research Council, Pisa, Italy): Sustainable agriculture and innovative food technologies to have nutraceutical products for animal and human nutrition
- 14:45–15:00 Coffee break
- 15:00–19:00 I. Session of Basic Veterinary Sciences
II. Session of Preclinical Veterinary Sciences

I. Session of Basic Veterinary Sciences

Chair of the session: Prof. Marta Kankofer

Vice-Chair: Prof. Jadwiga Jaworska-Adamu

Vice-Chair: Assoc. prof. Ewa Tomaszewska

(Hall 128, Innovative Center of Animal Pathology and Therapy,
University of Life Sciences in Lublin, Głęboka 30)

- 15:00–15:30 Opening lecture – **Erich Möstl**: The microbiome of the gut: a co-player in the formation of bioactive steroids
- 15:30–16:00 Opening lecture – **Gerhard Schuler**: Placental retention in cattle – symptom of an endocrine disorder?
- 16:00–16:25 **Ż. Dzięgielewska, Małgorzata Gajewska**: Role of stromal cells in regulation of bovine mammary epithelial cells functions
- 16:25–16:40 **Marta Arczewska, B. Gieroba, A. Sławińska-Brych, E. Tomaszewska, W. Rzeski, A. Stepulak, M. Gagoś**: Fourier transform infrared microspectroscopy monitoring of xanthohumol-induced apoptosis in breast cancer cells
- 16:40–17:00 Poster session and coffee break
- 17:00–17:15 **Monika Franczyk, N. Sokołowska, J. Wawrzykowski, M. Kankofer**: The identification of dermatopontin in bovine placenta during pregnancy and parturition
- 17:15–17:30 **Alicja Majewska, A. Szymańska, I. Szopa, K. Majchrzak**: Activation and programming of canine T lymphocytes towards T regulatory cells

- 17:30–17:45 **Marta Lisowska**, A. Pawlak, A. Rapak, A. Miazek: Focal Adhesion Kinase (FAK) inhibition potentiates the direct cytotoxic effect of an anti-major histocompatibility complex class II DR (MHC-II) antibody towards canine B cell leukemia/lymphoma lines
- 17:45–18:00 **Rafał Kolenda**, M. Burdukiewicz, A. Ali, P. Schierack: Comparative genomics and transcriptomics of *Salmonella* clinical isolates representing different cell line infecting phenotypes
- 18:00–18:15 **Izabela Świetlicka**, M. Arczewska, E. Tomaszewska, M. Świetlicki, D. Kuc, M. Mielnik-Błaszczak, K. Gołacki, K. Cieślak: Dental enamel properties after remineralisation with casein phosphopeptide–amorphous calcium phosphate varnish application
- 18:15–18:35 **Ulrich Schneider** (Gmund am Tegernsee): Goldic – next generation regeneration
- 18:35–19:00 Summary and closing of the Session

Poster presentations

- I.P.1 P. Dobrowolski, E. Tomaszewska, S. Muszyński, K. Kras, K. Woźniak, J. L. Valverde Piedra, M. B. Arciszewski, A. Zacharko-Siembida, S. Szymańczyk, S. Kowalik, A. Chałabis-Mazurek, T. Schwarz: The addition of 60% of modern hybrid rye to the pigs feed does not impair the quality of tight junction in the small intestinal epithelium
- I.P.2 L. Kiczak, U. Paławska, K. Nowak, M. Plócienniczak, C. Frostell, R. Paławski, A. Janiszewski, B. Adamik, M. Zielińska, W. Goździk: Decreased metalloproteinases activity in lungs in pigs treated with Inhaled Nitric Oxide (INO) and intravenous hydrocortisone in porcine endotoxemia model
- I.P.3 S. Muszyński, M. Arczewska, D. Kamiński, S. Świątkiewicz, A. Arczewska-Włosek, M. B. Arciszewski, A. Zacharko-Siembida, J. L. Valverde Piedra, P. Dobrowolski, T. Schwarz, E. Tomaszewska: The effect of dietary rye inclusion on structural organization of bone constituting phases in laying hens – a XRD and FT-IR study
- I.P.4 H. Predka, M. Pawłowska-Olszewska, I. Puzio: Immunohistochemical expression of adropin in growth and articular cartilage in rats
- I.P.5 R. Strzeżek, M. Lecewicz, K. Morawska, W. Kordan: Liposome based extender designed for freezing bovine semen is not good option to cryopreserve dog sperm
- I.P.6 R. Strzeżek, A. Reksa, W. Kordan: Comparison of egg yolks from three avian species in extender for cryopreservation of dog spermatozoa

- I.P.7 M. R. Tatar, W. Krupski, K. Kozłowski, A. Drazbo, S. De Smet, J. Jankowski: Quantitative Computed Tomography (QCT) application in studies on skeletal system properties in egg-laying hens
- I.P.8 E. Tomaszewska, S. Muszyński, P. Dobrowolski, M. Arczewska, I. Świetlicka: Acrylamide-induced prenatal programming of bone structure in guinea pig model
- I.P.9 R. Szalak, M. Matysek, W. Kukuła-Koch, A. Zacharko-Siembida, R. Lalak, M. B. Arciszewski: The effect of berberine isolated from barberry species by Centrifugal Partition Chromatography (CPC) on the expression of parvalbumin in claustrum of the mice
- I.P.10 M. Zacharski, P. Prządka, S. Dzimira, P. Skrzypczak, A. Tomaszek, W. Niżański, Z. Ligocka, M. Ugorski: Establishment of new canine prostate cancer cell lines

II. Session of Preclinical Veterinary Sciences

Chair of the session: Assoc. prof. Urszula Kosior-Korzecka

Vice-Chair: Assoc. prof. Marta Wójcik

(Hall 126, Innovative Center of Animal Pathology and Therapy,
University of Life Sciences in Lublin, Głęboka 30)

- 15:00–15:05 Opening of the Session
- 15:05–15:35 Opening lecture – **Mario Giorgi**: A glance to the novel compounds used in pain relief
- 15:35–16:05 Opening lecture – **Laura Pucci**, M. Gabriele, V. Longo: *In vitro* and *ex vivo* evaluation of antioxidant supplements
- 16:05–16:30 **Katarzyna Grzelkowska-Kowalczyk**: The role of microRNAs in mechanisms of cytokine effects on myogenesis, in the context of skeletal muscle injury and regeneration
- 16:30–16:50 Poster session and coffee break
- 16:50–17:10 **Aleksandra Pliszcak-Król**: Involvement of plasma hemostasis in the pathogenesis of systemic disorders – conclusions based on the results of studies conducted on an animal model
- 17:10–17:30 **Aneta Nowakiewicz**, P. Zięba, S. Gnat, A. Trościańczyk, U. Kosior-Korzecka, I. Puzio, M. Osińska, D. Łagowski: Underestimated antimicrobial resistance among zoonotic bacteria: a view from the methodological side
- 17:30–17:45 **Alicja Rzepecka**, M. Żmigrodzka, O. Witkowska-Pitaszewicz, A. Cywińska, A. Winnicka: Phenotypic variability and the function of peripheral blood monocytes in healthy dogs and dogs with lymphoma

- 17:45–18:00 **Andrejs Sitovs**, D. Kustovs, L. Voiko, L. Kovalcuka, M. Giorgi: Pharmacokinetics of levofloxacin after three different routes of single parenteral administration to domestic rabbits
- 18:00–18:10 **Irene Sartini**, B. Łebkowska-Wieruszewska, A. Lisowski, A. Poapolathep, H. Owen, M. Giorgi: Pharmacokinetics and tissue residues of marbofloxacin in Bilgorajska geese after single iv and po administration
- 18:10–18:20 **Lidia Radko**, M. Gbylik-Sikorska, A. Tkaczyk, A. Jakubaszek, P. Jedziniak, A. Gajda, A. Posyniak: Interaction of enrofloxacin and deoxynivalenol *in vitro* and *in vivo* study
- 18:20–18:30 **Dominik Łagowski**, S. Gnat, A. Nowakiewicz, M. Osińska, A. Marzec: Unexpected post-vaccination ringworm in cattle
- 18:30–18:40 **Joanna Michalska**, J. Wessely-Szponder, T. Szponder, B. Żylińska, M. Tarczyńska, M. Szubstarski: The influence of antimicrobial neutrophil extract on activity of neutrophils isolated during mosaicplasty osteochondral grafting in rabbits
- 18:40–19:00 Presentations of the Conference Sponsors

Poster presentations

- II.P.1** I. Sartini, B. Łebkowska-Wieruszewska, A. Lisowski, A. Poapolathep, M. Giorgi: Descriptive pharmacokinetics and tissue residues of meloxicam in Bilgorajska geese
- II.P.2** I. Sartini, M. Gbylik-Sikorska, B. Łebkowska-Wieruszewska, A. Gajda, A. Lisowski, C. J. Kowalski, A. Posyniak, A. Poapolathep, M. Giorgi: Can feeding influence the pharmacokinetics of vilazodone in dogs?
- II.P.3** M. Dec, D. Stępień-Pyśniak, T. Hauschild, S. Gnat, R. Urban-Chmiel, F. Fratini, D. Cerri, S. Winiarczyk, Barbara Turchi: Antibiotic susceptibility and virulence genes in *Enterococcus* isolates from wild mammals living in Tuscany, Italy
- II.P.4** D. Łagowski, S. Gnat, A. Nowakiewicz, M. Osińska, A. Marzec: Evaluation of candida chromogenic lab-agar for rapid species identification of dermatophytes
- II.P.5** D. Łagowski, S. Gnat, A. Nowakiewicz, M. Osińska, A. Trościańczyk, P. Zięba: Hemolytic activity of *Trichophyton verrucosum* strains isolated from animals on medium supplemented with and without actidione
- II.P.6** M. Osińska, A. Nowakiewicz, D. Łagowski, A. Trościańczyk, S. Gnat, P. Zięba: Isolation of pathogenic and multi-drug resistant bacteria from wild animals
- II.P.7** M. Osińska, A. Nowakiewicz, D. Łagowski, A. Trościańczyk, S. Gnat, P. Zięba, I. Wójcik, M. Wasiak: Resistance and virulence profiles of *Pseudomonas aeruginosa*

- II.P.8** R. Pyz-Łukasik, W. Paszkiewicz, A. Chałabis-Mazurek, K. Szkucik: Results of sanitary evaluation of selected types of food of animal origin produced in Poland
- II.P.9** U. Kosior-Korzecka, M. Wójcik, V. Longo, I. Puzio, A. Nowakiewicz, R. Bobowiec, K. Patkowski, M. Greguła-Kania, E. Tusińska: Changes in growth hormone secretion and leptin receptor expression under the influence of leptin and adrenocorticotropin in pituitary cells of early weaned ewe lambs
- II.P.10** M. Facon-Poroszewska, A. Pliszcak-Król, S. Graczyk: Flow cytometric assesment of platelet activation profile in pregnant mares

September 20th, 2019 (Friday)

III. Session of Clinical Veterinary Sciences

Chair of the session: Prof. Łukasz Adaszek

Vice-Chair: Assoc. Prof. Roman Dąbrowski

(Hall 126, Innovative Center of Animal Pathology and Therapy,
University of Life Sciences in Lublin, Głęboka 30)

- 9:00–9:45 **Opening lecture: Karin Möstl:** Feline Leukaemia Virus (FELV) infection: the complexity of pathogenesis and diagnostic procedures
- 9:45–10:00 **Gill Courtin** (Marseille): Clinical experience with horses' treatment using Goldic – gold induced cytokines
- 10:00–10:15 **Jacek Madany, K. Wrześniewska, A. Milczak, B. Abramowicz, D. Winiarczyk:** Prevalence of canin cataracts in Lublin Province: results of a cross-sectional study
- 10:15–10:30 **Jacek Madany, K. Wrześniewska, A. Milczak, B. Abramowicz, D. Winiarczyk:** Effect of oral administration of melatonin on clinical, hematological and biochemical parameters in healthy dogs
- 10:30–10:45 **Beata Nowicka, P. Silmanowicz, M. Lis:** Przypadek przykurczu ścięgnowo-stawowego skrajnego stopnia u żrebaka – próba terapii
- 10:45–11:00 **Ireneusz Balicki, M. Szadkowski, A. Balicka, M. Lew, A. Trbolova:** Assessment of Generalized Progressive Retinal Atrophy (GPRA) in mixed breed dogs using Spectral Domain Optical Coherence Tomography (SD-OCT) and electroretinography
- 11:00–11:15 **Ewelina Pyzik, R. Urban-Chmiel, J. L. Valverde Piedra, A. Chałabis-Mazurek, P. Leśniak, S. Świątkiewicz, A. Arczewska, T. Schwarz:** Effect of food and food safety system on various microflora of alimentary digestive broiler chickens

- 11:15–11:30 **Krzysztof Puk**, L. Guz: Occurrence of *Mycobacterium* spp. in ornamental fish in Poland
- 11:30–11:45 **Kinga Panasiuk-Flak**, P. Listos: The use of modern imaging methods – X-ray and computed tomography in the evaluation of gunshot injuries in animals
- 11:45–12:00 **Anna Malinowska**, I. Taszkun, P. Wilkołek: The Transepidermal Water Loss (TEWL), Epidermis Hydration (EH) and pH of the teat skin in dairy cows after experimentally chemical and mechanical irritation
- 12:00–12:15 **Lidia Radko**, Ł. Panasiuk, M. Durkalec, O. Burek, T. Kiljanek, P. Jedziniak, A. Nawrocka, S. Stypuła-Trębas, A. Posyniak: Analysis of contaminants in laboratory animals feed
- 12:15–12:30 **Kamila Bulak**, K. Borowska, B. Jodłowska-Jędrych: Lung morphology after the experimental application of cladribine in hairy cell leukemia treatment schema
- 12:30–12:45 **Marcin Kalinowski**, Ł. Jarosz, Ż. Grądzki: Assessment of the drug susceptibility of domestic strains of *R. equi* isolated from foals and from the environment of horse-breeding farms with and without endemic infections
- 12:45–13:00 **Krzysztof Tomczuk**, M. Studzińska, K. Szczepaniak, M. Demkowska-Kutrzepa, M. Roczeń-Karczmarz: Występowanie endopasożytów bydła w różnych systemach utrzymania zwierząt na podstawie badań koproskopowych

Poster presentations

(13:00–13:15)

- III.P.1 A. Marek, E. Pyzik, D. Stępień-Pyśniak, R. Urban-Chmiel, I. Jagiełło-Podębska: Virulence factors of coagulase-negative *Staphylococcus* strains isolated from slaughter poultry in Poland
- III.P.2 J. Zwolska, M. Szadkowski, A. Balicka, I. Balicki: Morphometrical analysis of the choroid in geriatric and middle aged mixed breed mesocephalic dogs using Spectral Domain Optical Coherence Tomography (SD-OCT)
- III.P.3 M. Bochniarz, M. Szczubiał, P. Brodzki, L. Krakowski, R. Dąbrowski: Serum and milk amyloid a concentrations in cows with clinical mastitis caused by *Staphylococcus aureus*
- III.P.4 R. Urban-Chmiel, I. Balicki, K. Świąder, A. Wernicki, M. Dec, A. Puchalski, A. Nowaczek, A. Marek, E. Pyzik, D. Stępień-Pyśniak, E. Poleszak: The efficacy of bacteriophages as eye drops solution in control and elimination of *Staphylococcus* spp. caused otitis externa in dogs

- III.P.5 R. Dąbrowski, M. Bochniarz, M. Szczubiał, P. Brodzki, L. Krakowski, A. Płusa, F. Lampreave, M. Piñeiro, L. Soler: Comparison of determinations of selected acute phase proteins in dogs with pyometra
- III.P.6 D. Stępień-Pyśniak, T. Hauschild, M. Dec, A. Marek, R. Urban-Chmiel: Phenotypic and genotypic characterization of resistance of *Enterococcus faecalis* strains isolated from the yolk sacs of broiler chicks from Poland and the Netherlands
- III.P.7 M. Szczubiał, R. Dąbrowski, M. Bochniarz, P. Brodzki: The effect of pyometra on the concentrations of non-enzymatic antioxidants in the uterine of female dogs
- III.P.8 M. Kalinowski, Ł. Jarosz, Z. Grądzki: Biochemical properties of domestic *R. equi* strains isolated from foals and the breeding environment of horses
- III.P.9 M. Kalinowski, Ł. Jarosz, Z. Grądzki: Characterization of the family of *vap* genes in domestic strains of *R. equi* isolated from foals and the breeding environment
- III.P.10 Z. Grądzki, Ł. Jarosz, A. Marek, D. Stępień-Pyśniak: The effect of feed supplementation with transcarpathian zeolite (clinoptilolite) on the concentration of acute phase proteins and cytokines in the serum and hepatic tissue of poultry

II. SESSION OF PRECLINICAL VETERINARY SCIENCES

POSTER PRESENTATION

II.P.7

**Marcelina Osińska¹, Aneta Nowakiewicz¹, Dominik Łagowski¹,
Aleksandra Trościańczyk¹, Sebastian Gnat¹, Przemysław Zięba²,
Izabela Wójcik¹, Magdalena Wasiak¹**

¹Sub-Department of Veterinary Microbiology, Institute of Biological Bases of Animal Diseases, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, Poland; ²State Veterinary Laboratory, Lublin, Poland

RESISTANCE AND VIRULENCE PROFILES OF *PSEUDOMONAS AERUGINOSA*

Bacteria from the genus *Pseudomonas* due to their low nutritional requirements are widespread in the environment. *Pseudomonas aeruginosa* has a natural resistance to a broad spectrum of antibiotics, mainly on the part of β -lactams, tetracycline, chloramphenicol and trimethoprim. Multi-drug resistance in *Pseudomonas aeruginosa* is compounded by the acquisition of resistance genes by horizontal gene transfer.

The aim of the study was to characterize the antibiotic resistance and to identify selected virulence factors among animal's host *P. aeruginosa* isolates.

The materials were 23 strains of *P. aeruginosa* isolated from rectal swabs of wild mammals - minks (*Mustela lutreola*) and hamsters (*Cricetinae*) as well as from cow's milk, from a cat's nostrils (*Felis catus*), and from corn snake (*Pantherophis guttatus*). The samples were streaked on MacConkey Agar, and the plates were incubated at 37°C for 24 hours. The characteristic suspected colonies were subjected to Gram's staining and oxidase test. The ability to produce dyes was performed on pyocyanin-fluorescein agar (PFA). Anti-microbial susceptibility testing was performed on Mueller-Hinton agar (MHA) by disc diffusion method. The following antibiotics were used for the study: ciprofloxacin, imipenem, meropenem, gentamicin, colistin and cefepime. The production of ESBL was checked using Disc Synergy Test according to CLSI standards. The genotypic detection of selected virulence genes were carried using the PCR method. The following genes were detected: *lasB* (elastase), *apr* (protease) and *exoU*, *exoS* (egzotoxins).

The tested bacteria showed resistance to most antimicrobials and ability to produce pyocyanin as well as in most strains the virulence genes have been detected which confirmed that *P. aeruginosa* would be a serious threat to human due to multi-drug resistance and its virulence.

II. SESSION OF PRECLINICAL VETERINARY SCIENCES

POSTER PRESENTATION

II.P.4

**Dominik Łagowski, Sebastian Gnat, Aneta Nowakiewicz,
Marcelina Osińska, Aleksandra Marzec**

Sub-Department of Veterinary Microbiology, Institute of Biological Bases of Animal Diseases,
Faculty of Veterinary Medicine, University of Life Sciences in Lublin, Poland

EVALUATION OF CANDIDA CHROMOGENIC LAB-AGAR FOR RAPID SPECIES IDENTIFICATION OF DERMATOPHYTES

Diagnosis of dermatophytosis and proper identification based on their morphological, and biochemical features is difficult. In addition, many similarities in morphology of different dermatophytes species requires a significant laboratory experience for correct identification. On the other hand, isolation and prompt identification of the etiological factor of superficial infection are the key point for successful antifungal therapy. Therefore, there is a great interest in the development of new and rapid diagnostic procedures. In our study, we tested the utility of Candida Chromogenic LAB-AGAR for rapid species identification of dermatophytes. The study was done for reference strains and clinical isolates of eight species of dermatophytes most commonly found in Europe. Isolates were presumptive inoculated onto Sabouraud glucose agar for 2 weeks. An inoculum of 2-mm diameter from the edge of each culture tested was transferred onto plates containing the test medium. The incubation temperature was lowered from the recommended 32°C to 28°C to ensure optimal conditions for the growth of all tested dermatophytes. Isolates were assessed daily in the 7 days period.

The results clearly indicate the high discriminative power of the Chromogenic Candida Agar used for dermatophytes. Violet color around small colonies indicated *Trichophyton verrucosum*, on the contrary *T. mentagrophytes* increased in the form of large, fluffy colonies without discoloration of the medium. *Microsporum canis* took the form of dark green colonies with a loose structure and a characteristic discolored margin and was easily distinguishable from navy blue colonies with ragged margins of varying yellow-green color without discoloration of the medium that occurred for *M. gypseum*. Noteworthy is the fact that it is possible to identify isolates of *Epidermophyton floccosum*, *Lophophyton gallinae*, *Nannizia nana*, *Trichophyton equinum*, *T. rubrum* and *T. benhamiae*. Only three species of the tested were indistinguishable on this medium: *T. terrestre*, *T. tonsurans* and *T. interdigitale*.

In conclusion, Candida Chromogenic LAB-AGAR can be a useful tool in morphological differentiation of clinical isolates of dermatophytes.