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Correlations between local bat populations (Ord. Chiroptera) and Borrelia spp infections in humans throughout Romania

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The dynamic relationship of host-parasite-pathogen co-evolution can influence the environmental outcome and thus can be highly relevant for public health, if habitats overlap. It is already known that bats are incriminated as reservoirs of high-impact emerging zoonoses, therefore, the aim of this study is to outline the bat-tick-human risk profiles. Incidence/prevalence of Borrelia sl infections in both rural and urban areas between 2010 and 2014 was compared with bat colony distribution and ticks distribution (one health concept). The disease occurs in several focal areas where the same peculiarities are registered: habitat fragmentation, important bat colonies in both rural and urban areas and an abundance of different tick species. The focal distribution calculated at an incidence per 100,000 population ranges up to 19.78, while the average doesn’t exceed 0.5. The pattern mentioned above was noticed in the 2010–2014 period, with the incidence values ranging up to 64–74% in urban areas. Further studies are needed to determine if bats play/raise a reservoir risk in relationship to Borrelia sl. However, clinicians should be cautious when using exogenous melatonin because, depending on unknown circumstances, the melatonin can induce both immunosuppression and immunoenhancement.

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Genetic profile of two south-east Romanian scrapie outbreaks in 2013

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The present study investigated PrP profile associated with scrapie susceptibility in two small ruminant Romanian flocks, officially confirmed with scrapie in 2013. In the two flocks were genotyped 403/407 sheep. The distribution of the five classes of susceptibility was: in the flock 1, class 1 of genotype, the most resistant to scrapie, missed. The class 2 had 23.28% and the class 3 had 52.91%. The classes 4 and 5, the most sensitive genotypes to scrapie, had 8.99% and respectively 14.81%. In the second flock, class 1 had 11.31%, class 2 had 35.43%, and class 3 had 50.25% while class 4 and 5 were 1.26% and respectively 1.76%. All positive animals were ARQ/ARQ genotype (class 3), meaning sheep with little genetic resistance to scrapie. These results match with other literature data, where the most frequent scrapie genotype was ARQ/ARQ. The most resistant genotype, ARR/ARR, had 11.31%, being present in only one flock. Scrapie class 1 could commingle with class 2 sheep, to generate a new flock. The sheep class 3, 4 and 5 has to be culled to eliminate the susceptible genotypes. These results strongly recommend the use of genetic profile as criteria in scrapie eradication programs.

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Melatonin and immune response: Therapeutic opportunities

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Melatonin hormone (MEL) has numerous effects on the immune system, acting both directly by regulating and increasing the activity of some lymphocyte subsets and immunological mediators, and indirectly by antagonizing the exogenous corticosteroids that induce immune depression. MEL is known for its role in regulating biological rhythms, like sleep-wake circadian cycle. In some circumstances, intestinal reflexes, metabolism processes, reproduction and even immunological processes can be under regulatory control of MEL. Exogenous melatonin increase production of IL-1, IL-6 and TNFα (asthmatic patients), inhibit inflammatory response (arthritis patients), improve immune parameters (AIDS patients), and enhances immune parameters in animals immunosuppression caused by beta-adrenoreceptor blockers. The ability of MEL (n-acetyl-5-methoxytryptamine) to regulate various physiological processes is mainly due to its basic structure, a lipophilic molecule with two functional groups which diffuses rapidly through biological membranes and enter into any cell of the body or fluid compartment. However, Mel exerts its physiological effects through three specific membrane receptors: MT1 (Mel1A), MT2 (Mel1B) and MT3 (Mel1C). MEL is a powerful natural antioxidant that neutralizes hydroxyl, peroxide, and nitric oxide radicals. Numerous teams of researchers recommended exogenous melatonin in immune system disorders and to increase immune resistance to infection.

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Feline infectious peritonitis intra vitam diagnosis: Approach and methods

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Feline infectious peritonitis (FIP) is a severe multi-systemic fatal immune-mediated disease of cats associated with feline coronavirus (FCoV) infection. Two clinical forms of FIP were described: effusive or wet and non-effusive or dry. Although the suspicion of...
In each establishment.

Finally, the food contamination. Therefore, raw fruits and vegetables must be contaminated with listeria on the farm and were often the source of contamination in food. In the Listeria’s control, the main strategy is a bacterium commonly found in raw vegetables and animal products (meat and cheese). The main sources of raw-food contamination are the soil and water, but infected persons and animals should be considered. This bacteria is one of the most virulent foodborne pathogen, with a mortality up to 20% of clinical cases. Sources of human infections are variable, but predominately food-borne listeriosis has been related with ready-to-eat foods, the workers must use gloves in order to prevent direct and indirect contamination, and were closer to strains WX/China/1984/AF402614 (China) and FRG/M67473 (Germany). Two distinct RHDV strains isolated in ’1990 will be recorded in Genbank. Part of virology and molecular biology research were done by Marius DAN at Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna “B. Umbertini” (Italy). Special thanks to Prof. Dr. Dănuţ Turcu, Dr. Antonio Lavazza, Dr. Lorenzo Capucci, Dr. Patrizia Cavadini, Dr. Steluta Rosu, Daniella Lavazza, Giuliana Botti, Cristina Palotta, Giovanni Bozzoni, Giuseppe Bertocchi.

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Studies concerning Listeria monocytogenes control in ready-to-eat foods

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Listeria monocytogenes is a bacterium commonly found in raw vegetables and animal products (meat and cheese). The main sources of raw-food contamination are the soil and water, but infected persons and animals should be considered. This bacteria is one of the most virulent foodborne pathogen, with a mortality up to 20% of clinical cases. Sources of human infections are variable, but predominately food-borne listeriosis has been related with ready-to-eat foods. The paper presents possibilities to control Listeria contamination in food. In the Listeria’s control, the main strategy is the good practices for ready-to-eat products and all the producers must comply. Therefore, the raw animal food products should not be refrigerated in the same space with ready-to-eat foods. During preparation, processing and packing of ready-to-eat foods, the workers must use gloves in order to prevent direct and indirect contact or by tools, between ready-to-eat food and raw food. A critical attention should be paid to fruits and vegetables; they may be contaminated with listeria on the farm and were often the source of food contamination. Therefore, raw fruits and vegetables must be washed thoroughly before cooking, cutting, or serving. Finally, the control of Listeria’s contamination in ready-to-eat foods is based on implementation of the Hazard Analysis Critical Control Point Plan in each establishment.

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Rabbit haemorrhagic disease virus strains isolated in Romania

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Rabbit haemorrhagic disease (RHD) is a fatal systemic calicirosis of Oryctolagus cuniculus, spread all over the world and endemic in several European countries. In Europe two lagomorphs’ calicivirus-s have been described, RHD and European brown hare syndrome (EBHS), the last one never reported in Romania. A higher interest pathology of Oryctolagus cuniculus, and their Calicivirus infections. Studies have focused both on the clinicopathological characterisation of Romanian outbreaks and on characterisation of the virus strains – morphological, immunological and phylogenetic. Clinicopathological characteristics of RHD are apathy, anorexia, nervous and respiratory signs, disseminated intravascular coagulation, splenomegaly and miliary necrotic hepatitis. Romanian RHDV strains, isolated and characterised by our team, have been included in the genetic group G2 in LeGall-Reculé classification, clade 3 in Kerr classification, and clade A in Kinnear classification, and were closer to strains WX/China/1984/AF402614 (China) and FRG/M67473 (Germany). Two distinct RHDV strains isolated in ’1990 will be recorded in Genbank. Part of virology and molecular biology research were done by Marius DAN at Istituto Zooprofilattico Sperimentale della Lombardia e dell’Emilia Romagna “B. Umbertini” (Italy). Special thanks to Prof. Dr. Dănuţ Turcu, Dr. Antonio Lavazza, Dr. Lorenzo Capucci, Dr. Patrizia Cavadini, Dr. Steluta Rosu, Daniella Lavazza, Giuliana Botti, Cristina Palotta, Giovanni Bozzoni, Giuseppe Bertocchi.

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A hyperthyroid cat treatment using human vs. veterinary drugs

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In humans and animals hyperthyroidism is an endocrine disorder characterized by thyroid gland excessive production and secretion, followed by high thyroxine and triiodothyronine levels. In veterinary field the disease is commonly diagnosed especially in adult cats, generally over 10 years of age. In Romania, the lack of specific conditionings, oblige vets to choose, for hyperthyroidism treatments, similar human use products. A 17 years old European breed cat female, weighting 3.42 kg, was presented with agitation, aggression, polyphagia, polydipsia, polyuria and nausea and vomiting symptoms. At the clinical examination, cat had a dirty appearance of the coat, presented anorexia and cachexia. The paraclinic, hematological and biochemical and, respectively, hor-