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Cs. Jakab – F. Gyöngy – M. Mándoki – G. Majoros:

**PERITONITIS AND PERINEURITIS CAUSED BY SETARIOsis IN CATTLE. CASE REPORT**

The authors describe a pathological case of a 5 years old Charolais x Hungarian spotted crossbred cattle which died suddenly on the 17th of January 2011 due to acute rumen overload and dilatation. The beef cattle
herd where the cattle originated from spent most of its time on a swampy pasture surrounded by puddles. The herd included the above mentioned animal received parenteral anti-parasitic treatment, ivermectin injection in 1 ml/50 body weigh dose on 27th of December 2010, as the previous routine parasitology screening revealed threadworm infection in the young individuals. During the pathological examination on the left ventral surface of the rumen in a triangular area of 80x60x40 cm size chronic, active, diffuse peritonitis was observed. Along the blood vessels and the peripheral nerves supplying the rumen numerous parasitic forms were seen underneath the serous surface encapsulated with hyperemic angiofibroblast tissue and also some freely moving worms were identified on the serous surface. The parasitological examination stated a Setaria labiatopapillosa infection. Histopathology showed chronic, active demarcating inflammation (peritonitis) with signs of angiofibroblast tissue proliferation and remarkable neoangiogenesis, lympho-plasma-histiocytic and neutrophil granulocytic infiltration around the dead worms positioned in the subserosa. Around the n. vagus branches, innervating the wall of the rumen, in the perineural spaces we diagnosed perineuritis with inflammatory edema and lymphocytic infiltration. In the connective tissue stroma of the underlying deep smooth muscle layers also inflammatory edema, vascular dilation and lymphocytic infiltration was observed. During the dissection of the carcass on the left caudo-ventral abdominal area we described a fresh 5–10 cm long rupture of the abdominal fascia covering the subcutaneous connective tissue and the outer surface of the
abdominal musculature and a fresh 10 cm long partial rupture of the right caudal side of the m. rectus abdominis. In the adjacent skin tissue lesions of continuity were not observed. The routine aerobic bacteriological examination was carried out from the affected parts of the serous membrane, from the liver, spleen and the ruptured area of the abdominal wall with negative results.

According to the authors supposition necrosis inducing tissue debris (necrotoxins) from the previously treated and killed *S. labiatopapillosa* parasites triggered the extensive, chronic, active peritonitis and perineuritis, it may caused dysfunction of the n. vagus and consequential abnormal motility (hypotonia) of the rumen leading to pathological stasis and accumulation of the rumen content. This abnormal function most probably was increased by the pain on the area of the peritonitis together with the histologically proved myositis of the wall. The question rises if the high dosage steroid administered at the beginning of the process could have influenced the outcome of the disease.


**ANALYSIS OF TWIN CALVINGS IN HUNGARIAN HOLSTEIN-FRIESEAN DAIRY HERDS**

The authors studied the conformation of twinning on three farms in a 10-year period (1998–2007). From 19,870 calving, 693 were twinning calving
(3.48%), of which 637 bulls, 615 heifers were born and 143 were born dead.

From 486 heifers (1998–2005) which were born from twinning, 220 were requalified in the farm, 15 (requalified) have been got into export. From twins 180 were excluded from breeding, 71 were dead and 129 heifers have not yet been examined.

The twinning occurs in the 2nd–3rd lactation most frequently. From 7326 calvings of first lactation cows 60 were twinning, which corresponds to 0.82%.

Twinning born heifers will be used later for breeding by reason of slower development. The authors examined 220 heifers from twinning and 5401 heifers from single calving. In case of cattle from twin born, the average first calving age was 827 days, from single it was 812 days. Since the difference is only 15 days, it proves that the development of twinning heifers is not significantly below that of single born peers.

In the three dairy farms, the gestation period of twins’ mothers was 272 days, while that of mothers of single was 277, the difference is 5 days. Thus, the twin individuals born with an average of 5 days earlier, but 15 days later will be used for breeding. The „disadvantage” is 10 days compared to peers, which is negligible and by special care this time is further reduced.

The 305 days lactation milk production of twins is in excess of peers, their characteristics chemical composition (fat%, protein%) is slightly weaker than the peers, but this difference is negligible.
The experts mentioned problems in the involution of twins' mothers. The period to first service was an average of 79 days after single calving in case of 15,848 mothers and 91 days after twinning of 460 mothers. The difference is 12 days which is further reduced by care, targeted therapies, and proper feeding. Between single calving and twin calving interval there is also not a big difference. Calving interval is 432 days after twinning and 421 days after single calving. The size of culling between cattle from twin birth and cattle from single birth is similar.

Economic study was carried out on the calving and was based on the number of individuals. As from every twinning, 2 or more calves were born, therefore one calving get 2 or more calves compared to single birth. Allowing for a higher mortality and births of mixed-sex individuals heifer in the breeding distribution of calving percentages of individuals set on the basis of the number is still higher.

In summary, the twinning in Hungarian housing and feeding conditions may mean economic advantage.

J. Gál – M. Marosán – V. Zelenák – M. Mándoki:

**ACUTE PATHOLOGICAL LESIONS IN A SHEEP DUE TO RED MUD CONTAMINATION, THE WASTE PRODUCT OF THE REFINING BAUXITE TO SMELTER-GRADE ALUMINA**

The authors present the case of a 5 year old sheep which was euthanized due to direct red mud contamination in 2010 Hungary. Severe, partial
decomposition and necrosis of the tissues developed on the skin, in the upper airways and on the cornea of the eye due to strong alkali stimulation.


EFFECT OF FEEDING OF SELECTED MEDICINAL PLANTS ON LIPID OXIDATION OF MEAT OF BROILER CHICKENS

The present study is aimed at evaluating the effect of feeding different medicinal plants: lemon balm (*Mellissa officinalis* L.) and combination of yarrow (*Achillea millefolium* L.) and hawthorn (*Crataegus oxyacantha* L.) on oxidative stability (by 2-thiobarbituric acid method, TBA) and sensory properties of poultry meat. For the trial, 60 one-day-old broiler chicks (ROSS 308) were allocated into three groups, and fed for 41 days, as follows: control (C) was fed on basal diet without supplementation of antioxidants; second group (LB) was fed on basal diet supplemented with grounded lemon balm in concentration of 20 g.kg$^{-1}$; and third group (YH) was fed on basal diet supplemented with grounded yarrow of 20 g.kg$^{-1}$ and hawthorn of 10 g.kg$^{-1}$. In the experimental groups (LB, YH) significantly lower amounts of TBA reactive substances were detected as compared to the control group (P < 0.05). The results of the concentration of the TBA-reactive substances showed that supplementation with lemon balm, and primarily the combination of yarrow and hawthorn in the diet caused
significantly the reduction of lipid peroxidation processes in thigh meat during chilling and freezing storage of samples. In addition, supplementation of plants in the diet had positive effect on sensory quality of thigh meat after freezing storage.

K. Bálint – L. Balogh:

**DIAGNOSTIC AND THERAPEUTIC ASPECTS OF CANINE MALIGNANT MELANOMA. PART 1. LITERATURE REVIEW**

Melanoma is a fairly common diagnosis in dogs world-wide similarly to Hungary. It is the most frequent malignant neoplasm of the oral cavity, but its occurrence is not uncommon in other body sites such as the extremities, skin, lips, or eyes. Oral, mucosal and subungual melanomas are extremely malignant tumours with a high degree of local invasiveness and a high metastatic ability. Therefore there is an increasing demand for modern diagnostic imaging techniques and new treatment options and multimodal therapeutic protocols, since many of the patients have regional or distant metastasis at the time of presentation.

In their two-part series of articles the authors compare the incidence of the disease and the therapeutic results by the data of the National Frédéric Joliot-Curie Research Institute for Radiobiology and Radiohygiene between 1992 and 2010 and the statistical results of foreign studies.
In the first part they give an overview on the current diagnostic and therapeutic methods of canine malignant melanoma based on the literature.


**DIAGNOSTIC AND THERAPEUTIC ASPECTS OF CANINE MALIGNANT MELANOMA. PART 2. OWN EXPERIENCES**

In the second part of their two-part series of articles the authors compare the incidence of the disease and the therapeutic results by the data of the National Frédéric Joliot-Curie Research Institute for Radiobiology and Radiohygiene between 1992 and 2010 and the statistical results of foreign studies. The overall 406 malignant melanoma cases showed similar results to international references, regarding to the species- and age distribution and localization of primary tumours. The most exact stadium based diagnosis was reached by whole body $^{18}$FDG PET/CT examinations. The best treatment results in dog patients were achieved by radical surgery and postsurgical fractionated teletherapy boostered with electromagnetic hyperthermia (Oncothermia).

J. Pénzes – A. Doszpoly:
DETECTION OF ADENOVIRAL INFECTION IN BEARDED DRAGONS (*POGONA VITTICEPS*) IN HUNGARY

Adenoviral infection of bearded dragons (*Pogona vitticeps*) was detected in Hungary for the first time. PCR analyses on the DNA extracted from samples of dead animals originating from a pet store were performed. Small fragment of two viral genes were amplified and sequenced. According to the analysis of the sequences, no variations were found at nucleotide level and the viruses could be assigned to the type of agamid adenovirus 1. The results show that the Hungarian bearded dragons are infected.


EVALUATION OF THE CLINICAL EFFICACY OF LIMB LENGTHENING IN RABBITS

The aim of this study was to investigate the clinical efficacy of the surgical procedure and protocol of limb lengthening in rabbits. 20 New-Zealand White rabbits underwent tibial lengthening and callus distraction technique. The rabbits were divided into three groups: In group A the bones were predrilled with electric drill, in group B more gentle electric predrilling were used and the pins were inserted by rotating them forth and back before they penetrated the opposite cortex. In group C manual drill and our innovation, a metal sleeve was used to cause the
least harm for the very thin cortex in the rabbits. The lengthening protocol was: after 7 days of latency 1 mm distraction a day to achieve 20% lengthening.

The first eight rabbits were operated by predrilling with electrical drill, but a high incidence of cortical fissures around the pins were experienced (Group A and B).

In the last group of rabbits we used manual predrilling and a sleeve that decreased the incidence of the cortical fractures. During the study they corrected their drilling and aiming technique and the bone healing of successfully lengthened rabbits looked excellent, both macroscopically and radiographically. This suggests a good functioning surgical procedure and lengthening protocol.