

COMPARATIVE RESEARCH REGARDING THE EVOLUTION OF HEMATOLOGICAL AND BIOCHEMICAL PARAMETERS, IN UROLITHIC CONDITIONS, IN DOGS

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Summary

In our experiment we did a comparative study between the hematological profiles of dogs with urolithiasis, in correlation with the type and specificity of urinary stones. In our study we analyzed 20 dogs of different breeds and ages. Depending on the diagnosis, the cases were grouped into two categories: animals with urolithiasis formed on the basis of crystals with concretion in alkaline medium and animals with urolithiasis constituted on the basis of crystals with concretion in acidic medium. The differences between the two experimental groups in terms of hematocrit and hemoglobin were statistically insignificant. The differences between the two experimental groups, in terms of the level of leukocytes in the blood were statistically significant ($P < 0.05$), the value of this parameter being 85.46% higher in the case of group 1, compared to group 2. The differences between the two experimental groups in terms of fibrinogen level were statistically significant ($P < 0.05$), the value of this parameter being 60.94% higher in group 1 compared to group 2. The results obtained by us after the analysis of the urine samples collected from the animals from the two experimental groups showed that in the case of group 2 the results were negative in the case of all 8 samples. In the case of group 1, we recorded 8 cases out of 12 (66%) in which we found the presence of red blood cells and hemoglobin in the urine, suggesting the presence of lesions in the urinary tract. The results obtained by us after analyzing the urine samples collected from the animals from the two experimental groups and interpreted in order to evaluate the presence of proteins and/or leukocytes in the urine showed that in group 2 the results were negative in all 8 samples, indicating the absence of proteins and leukocytes in the urine. In the case of group 1, we registered 8 cases out of 12 (66%) in which we found the presence of leukocytes in the urine. Also, in the case of group 1, the same animals that had leukocytes in the urine, showed in the urine levels of proteins between 30 and 500 mg/dl.

Keywords: dog, urolithiasis, hematological and biochemical parameters

RESEARCH ON THE EFFECT OF A HYPOALLERGENIC DIET IN DOGS WITH ATOPIC DERMATITIS

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Summary

The research looked at the effect of a commercial hypoallergenic diet in dogs with atopic dermatitis, compared to the effect of the same diet in dogs diagnosed with food allergy. The study was conducted on twenty dogs, grouped in two experimental groups, as follows: ten dogs with skin hypersensitivity, diagnosed with atopic dermatitis and ten dogs diagnosed with a food allergy. The commercial diet tested was the Royal Canin Hydrolyzed Protein product, the effect of which was followed for a period of three months. After the end of the experimental period, the dogs returned to control, being divided into three groups, depending on the results obtained: dogs whose symptoms disappeared completely (G1), dogs whose symptoms decreased (G2) and dogs whose symptoms remained unchanged (G3). In the first group, of the dogs with atopic dermatitis, the following results were recorded: in category G1 no dogs were classified, in category G2 four dogs were classified (40%) and in category G3 six dogs (60%) were included. In the group of dogs with food allergy, group 2, we found the following results, regarding the intensity of the pruritus: ten out of ten dogs (100%) showed a significant improvement, nine dogs (90%) were included in group G2 and one dog (10%) in group G1. Diet with soy hydrolyzed protein has been good in dogs who have been diagnosed with food allergy, including dogs who have reacted positively to chicken allergens and soy being the main components of the hypoallergenic diet. In dogs with atopic dermatitis, the positive effects were restricted to the improvement of clinical signs with pruritus being present.

Keywords: canine, soy hydrolyzed protein, atopic dermatitis

EXTERNAL SPLINTING FOR TREATMENT OF PECTUS EXCAVATUM IN A PUG DOG: A CASE REPORT

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Summary

The congenital, neonatal and pediatric orthopedic diseases among which osteochondrodysplasias (cartilage and bone disorders that occur due to defective endochondral or intramembranous ossification) have often concurrent thoracic abnormalities, including pectus excavatum and pectus carinatum, that have been previously documented in a variety of species. A recent scientific study demonstrated that the greater risk for pectus excavatum occurrence was carried by the Maltese and the English Bulldog, and pectus carinatum by the Pug and the French Bulldog breeds. The aim of our case report was to describe, clinically and radiologically, a case of pectus excavatum in a Pug and to evaluate the surgical correction using a U-shaped external splint. The severities of thoracic deformity were evaluated by deformation indices such as fronto-sagittal index and vertebral index. A diagnosis of moderate pectus excavatum was established based on radiological measurements. Post-operative thoracic radiography showed that the concavity of the sternum was reduced and at two months after surgery, the dog was clinically normal.

Keywords: dog, pectus excavatum, external splint

**DOES THE PROBIOTIC COMBINATION OF *BACILLUS SUBTILIS*,
BACILLUS LICHENIFORMIS AND *PEDIOCOCCUS ACIDILACTICI*
INFLUENCE THE BIOCHEMICAL PARAMETERS ON HEALTHY
DOGS? A PILOT STUDY**

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Summary

Probiotics are live microorganisms that have a benefic effect when administered in the right amounts. Innovative combinations are now used in veterinary medicine with data extrapolated from human medicine. The aim of the present study was to assess the influence of a probiotic product based on *Bacillus subtilis*, *Bacillus licheniformis* and *Pediococcus acidilactici* on the biochemical parameters of 6 healthy adult dogs. The probiotic was administered once a day, together with the normal daily food of the dogs for a period of 30 days. Before enrolling the dogs in the study, a general clinical exam was performed. Moreover, at day 1 and 31/36 of the study blood samples were collected in order to evaluate the biochemical parameters. The results obtained showed a dynamic change of the biochemical parameters. However, all the values remained in the physiological parameters before and after the probiotic cure. Thus, the results obtained show that the combination between *Bacillus subtilis*, *Bacillus licheniformis* and *Pediococcus acidilactici* prove to be safe for dogs, without any negative impact on the biochemical parameters.

Keywords: *Bacillus subtilis*, biochemical parameters, canine, *Pediococcus acidilactici*, probiotic

EVALUATION OF THE BIOCHEMICAL CONTENT OF FRUITS ON SOME PLUM GENOTYPES

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Summary

In Romania, the plum has a wide spread area (about 50% of the country's orchards), its fruits being consumed fresh or processed since long times ago. Fruits quality through its indicators (soluble dry matter and acidity) is influenced by the intake of water and fertilizers (in this case of the foliar ones) and especially the agro-biological value of the variety. Plums are a significant source of antioxidants with potential in neutralizing free radicals. The present paper presents the results of the plums quality as regard the fruits chemical indicators (dry mater content, total titrable acidity, sugar content, anthocyanins and polyphenols). The genotypes studied were: 'Agent', 'Alina', 'Andreea', 'Carpatin', 'Centenar', 'Gras ameliorat', 'Iulia', 'Roman', 'Romanța', 'Tita', 'Tuleu timpuriu', 'Tuleu gras', 'HR 7/48', 'HL 10/31', 'H 6/78 P' compared with 'Stanley' and 'Jojo', which are the most spread cultivars in commercial orchards from Europe. In this study, we observed the tendency to increase the total anthocyanins, polyphenols and total sugar content with the loss of water from the fruit.

Keywords: fruit quality, sugar content, total acidity, anthocyanins, polyphenols

RADIOGRAPHIC ASSESSMENT OF THE DISTAL RADIUS AND ULNA IN DOGS

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Summary

Objective: to report the values for four radiographic parameters of the distal radius in dogs to provide fundamental data for normal radiographic anatomy. Study design: clinical radiographic anatomical study. Animals: healthy dogs of different ages, weights and breeds (n=33 for the Hulten variance values, n=32 for the radial height and radial inclination values, n=57 for the volar tilt values). Methods: extended thoracic limb radiography was performed in two views and the images were analyzed to determine the Hulten variance, radial height, radial inclination and volar tilt. The mean values \pm SD, 95% confidence intervals (95% CI) and frequencies were calculated. Kruskal-Wallis and Wilcoxon tests were implemented to determine the significance of the differences between the groups. Results: the mean Hulten variance in dogs was found to be -3.3 ± 2.4 mm. The mean radial height in dogs was found to be 4.72 ± 2.52 mm, whereas the mean radial inclination was found to be 15 ± 6.81 . The radial angular inclination value was found to be depending on the patients' weight. The mean volar tilt in dogs was found to be 14.82 ± 5.42 . Conclusions: the baseline values for the four radiographic parameters provide a starting point for further investigation of the canine distal radius and selection of treatment method.

Keywords: dog, Hulten variance, radial height, radial inclination, volar tilt

**CYTOPATHOLOGICAL FINDINGS IN PLEURAL EFFUSIONS
DETERMINED BY PRIMARY AND SECONDARY NEOPLASMS IN
DOMESTIC CARNIVORES**

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Summary

The cytopathological diagnosis is an area of interest of clinical pathology, which is a very useful, cheap and time worthing tool used in the assessment of patients with pleural effusion. The veterinary emergency and critical care literature sees the cytopathological approach of the patient with pleural effusion as a bridge between the pathologist and the clinician and as a very important source of information which leads to a correct therapeutic management. A pleural effusion, of unknown origin, discovered during clinical examination, is considered a life threatening condition that needs a rigorous mathematical approach protocol, using thoracocentesis as a method of therapy and diagnosis.

Keywords: pleural effusion, tumors, clinical pathology, cytopathology

RESEARCHES REGARDING THE HEPARIN SIDE EFFECTS IN DOGS UNDERGOING HEMODIALYSIS

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Summary

The paper aimed to present the best heparin dose usage in dogs undergoing hemodialysis in order to prevent side effects such as massive bleedings around the central venous catheter or thrombosis in the extracorporeal circuit during hemodialysis. Anticoagulation protocols in routine intermittent hemodialysis typically consist of the systemic administration of a standard dose of heparin as a bolus 5 minutes before starting the dialysis treatment, followed by a maintaining dose during the whole session. Unfractionated heparin is the most common anticoagulant used in dogs undergoing hemodialysis. This study was conducted on 15 patients, belonging to different breeds and having different ages. The 15 patients were divided in 3 equal batches. First batch received a dose of 50 U/kg heparin (n=5), the second one a dose of 25 U/kg heparin (n=5) and the third one received a dose of 10 U/kg heparin (n=5). The proper heparin dose usage in all patients undergoing hemodialysis, regardless of the age, appears to be 10-25 U/kg, in order to avoid side effects.

Keywords: hemodialysis, anticoagulation, heparin, thrombosis, bleeding

OSCILLATION OF BLOOD PRESSURE IN DOGS WITH KIDNEY INJURY UNDERGOING HEMODIALYSIS

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Summary

Hypertension related to kidney injury and fluid overload is commonly encountered in the dialysis patient population. It is estimated that approximately 30-55% of dogs diagnosed with chronic kidney disease (CKD) are impacted by systemic hypertension. One of the most common complications of hemodialysis is hypotension and hypovolemia as a result of ultrafiltration and large extracorporeal blood volume during the sessions. The aim of the present study is to determine the blood pressure variations in patients undergoing hemodialysis in order to adjust the hypertensive therapy. The study was conducted on 10 canine patients diagnosed with chronic kidney disease and hypertension. After every hemodialysis session, a reduction of BP observed in all patients. After observing the blood pressure variations, it is safe to say that hemodialysis has a role in the management of hypertension in dogs with renal function impairment and it can be a complementary therapy to classical hypotensive drugs in those patients.

Keywords: hemodialysis, hypertension, kidney, dogs, therapy

**PRELIMINARY RESULTS OF THE SERIC CALCIUM VARIATIONS
IN CANINE CHRONIC KIDNEY PATIENTS ACCORDING
TO ORAL INTAKE OF CALCIUM PHOSPHORUS BINDERS**

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Summary

This study was performed in the Faculty of Veterinary Medicine's Clinic during 12 months (January 2016 - January 2017), on 100 patients with clinical signs of chronic renal disease and calcium levels lower than 7.9 mg/dL. The purpose of this study is to determine the efficacy of oral phosphorus binders on increasing the calcium levels in chronic kidney patients. Four batches of 25 dogs were created: the first batch (no. 1 = 25), received calcium carbonate binders once a day, in the morning with meal; the second batch (no. 2 = 25) twice a day, with meal; the third batch (no. 3 = 25) once a day, in the morning, one hour before meal; the fourth batch (no. 4 = 25) twice a day, one hour before meal. All patients received a dose of 100 mg/kg. The results shown that the most important and coherent increase in calcium levels has accomplished in batch number 2 and the poorest results in batch number 3.

Keywords: calcium, hypocalcemia, binders, renal, phosphorus

**PRELIMINARY RESULTS OF THE SERIC PHOSPHORUS
VARIATIONS IN CANINE CHRONIC KIDNEY PATIENTS
ACCORDING TO ORAL INTAKE OF CALCIUM PHOSPHORUS
BINDERS**

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Summary

Hyperphosphatemia is among the most common metabolic complications of renal patients. This study was performed in the Faculty of Veterinary Medicine's Clinic during 12 months (January 2016 - January 2017), on 100 patients who presented clinical signs of chronic renal disease and phosphorus level higher than 6.8 mg/dL. The purpose of this study was to determine the efficacy of oral phosphorus binders on decreasing the phosphorus levels in chronic kidney patients. Four batches of 25 patients were created: the first batch (no. 1 = 25), received calcium carbonate binders once a day, in the morning with meal; the second batch (no. 2 = 25) twice a day, with meal; the third batch (no. 3 = 25) once a day, in the morning, one hour before meal; the fourth batch (no. 4 = 25) twice a day, one hour before meal. All patients received a dose of 100 mg/kg. The results shown that the most important and coherent reduction in phosphorus levels has accomplished in batch number 2 and the poorest results in batch number 3.

Keywords: phosphorus, binders, calcium, renal, chronic

**RESEARCH REGARDING THE EFFECTS OF THE DIALYZER ON
NEUTROPHILS FOR DOGS WITH KIDNEY INJURY
UNDERGOING HEMODIALYSIS**

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Summary

Haemodialysis (IHD) is a renal replacement treatment that is defined by short, efficient haemodialysis sessions with the goal of removing endogenous or exogenous toxins from the bloodstream. The neutropenia occurring at the initiation of haemodialysis is generally thought to result from activation of complement cascade, generated by the contact of plasma with the dialyser membranes, which subsequently promotes aggregation and sequestration of granulocytes in the pulmonary bed. The aim of this study is to determine if the neutropenia is consistent after the haemodialysis session. A dramatic transient and rapidly reversible neutropenia occurs during the first minutes of treatment in patients undergoing haemodialysis. The neutropenia is followed by an increase in the number of band neutrophils and the return to near normal circulating leukocyte levels after dialysis session.

Keywords: neutrophils, haemodialysis, dialyzer, dog, kidney