PROGNOSTIC VALUE OF SERUM LEVEL OF ALBUMINA AND CLINICAL SIGNS IN PROTEIN-LOSING ENTEROPATHIES

VALOAREA PROGNOSTICĂ A NIVELULUI SERIC AL ALBUMINEI ȘI A SEMNELOR CLINICE ÎN ENTEROPATIILE CU PIERDERE DE PROTEINĂ

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ABSTRACT | REZUMAT

Protein losing enteropathies include diseases that cause protein loss in the gastrointestinal tract. The study was conducted in the private clinic „Univet" Constanța, Romania, from September 12, 2016 to June 16, 2017, on 73 dogs. Significant clinical signs were diarrhea (91%), weight loss (74%), anorexia (56%), lethargy (51%), ascites (18%), ascites without gastrointestinal signs (9%).

The paraclinic investigations indicated 77% of dogs with enteropathies with albumin loss.

The enteropathies with 82% loss of albumin was cured and 18% completed by exitus.

Biochemical determinations of the degree of hypoalbuminemia associated with the symptomatology of the subjects did not influence the evolution of the animal and had no implication in the prognosis orientation.

Keywords: protein losing enteropathies, prognosis, hypoalbuminemia, dogs

Enteropatiile cu pierdere de proteină cuprind afecțiuni ce determină pierderea proteinei din sânge în tractul gastrointestinal. Studiul a fost efectuat în cadrul Clinicii veterinare particulare „Univet" Constanța, România, în perioada 12.09.2016- 16.06.2017, pe 73 de câini. Semnele clinice regăsite evidente semne clinice au fost diareea (91%), pierderea în greutate (74%), anorexia (56%), letargia (51%), ascita (18%), ascitele fără semne gastrointestinale (9%).

Investigațiile paraclinice au indicat o proporție de 77% de câini cu enteropatii cu pierdere de albumină.

Enteropatiile cu pierdere de albumină în procent de 82% s-au vindecat iar 18% s-au finalizat prin exitus.

Determinările biochimice ale gradului de hipoalbuminemie asociate cu simptomatologia manifestată de subiecți, nu au influențat evoluția animalului și nu au avut implicație în orientarea prognosticului.

Cuvinte cheie: enteropatii cu pierdere de proteină, prognostic, hipoalbuminemie, câini

The protein losing enteropathies include diseases that cause protein loss in the gastrointestinal tract.

Normally, proteins that reach the intestine are transformed into amino acids; these, in turn, are reabsorbed and transformed into new proteins. Excessive loss of protein at the gastrointestinal level may occur under certain conditions:

1. Gastrointestinal diseases: Chronic inflammatory bowel disease (IBD), gastrointestinal ulcers, bacterial, parasitic, viral, food intolerance.

2. Lymphatic diseases: lymphagiectasis, gastrointestinal lymphoma.

3. Congestive heart failure (1, 3).

Therapeutic management in albumin-losing enteropathies includes acid-base balancing, hydroelectrolytic and rehydration of the body, nutritional support (enteral nutrition or parenteral nutrition), general drug therapy and specific anti-haemorrhagic therapy: Phytomenadione 1 mg / kg s.c. at 12h and Etamsilat 5 mg / kg b.w. to 24h. Antidiabetic: Spectinomycin 5-12 mg / kg i.m. at 12h (3).

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MATERIALS AND METHODS

Clinical and paraclinical investigations as well as therapeutic management were carried out in the private veterinary clinic „Univet" Constanța, Romania, between September 12, 2016 - June 16, 2017, on 73 dogs of different breeds and ages showing gastrointestinal disturbances, and the biochemical analyzes using the iMagic V7 humoral biochemistry analyzer determined the degree of hypoalbuminemia.

RESULTS AND DISCUSSIONS

There were 73 dogs in this study, who showed gastrointestinal affections aged between 3 months and 10 years of different races, 40 males and 33 females.

The most obvious clinical signs were diarrhea (91%), weight loss (74%), anorexia (56%), lethargy (51%), ascites (18%), ascites without gastrointestinal signs (9%) (Fig. 1).

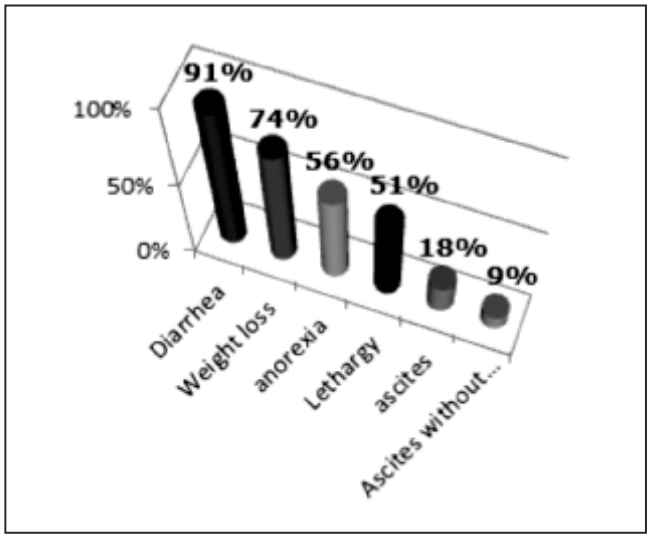

Fig. 1. The percentage of clinical signs in dogs with protein losing enteropathies

The therapeutic management was applied depending on the primary condition that caused hyaloalbuminemia and consisted in intravenous administration of colloids, crystalline, enteral or parenteral nutrition as well as specific drug treatment.

Based on the literature and the manufacturer's leaflet, normal dog serum albumin values are between 2.6-4g /dl.

As a result of the paraclinical investigations, 77% of dogs were found to have hypoalbuminemia (Fig. 2).

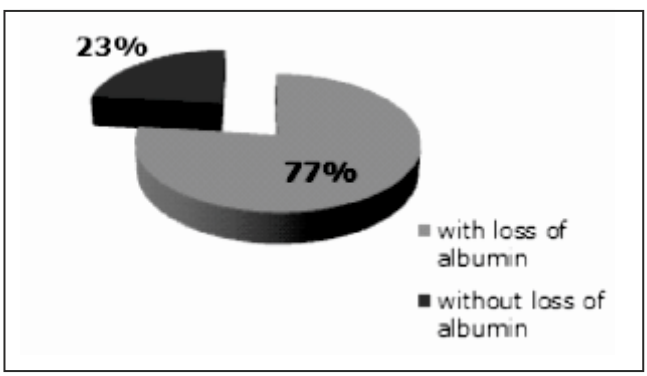

Fig. 2. Graphical representation of Protein-losing enteropathies

Enteropathy with 82% loss of albumin was healed and 18% ended with exitus (Fig. 3).

In two European studies involving a total of 150 dogs with chronic enteropathy, hypoalbuminemia (serum albumin <20 g / l) was associated with a less favorable prognosis (4)

This was confirmed in a preliminary report from a recent North American study, although evolution does not seem to correlate with the severity of hipoalbuminemia. (2, 4).

Although hipoalbuminemia has been recognized as a negative prognostic factor in dogs with chronic enteropathy (EC), very few published studies specifically targeting the survival of dogs suffering from PLE. Other parameters that were associated with a poor outcome in CE dogs include hypocobalaminemia and hipovitaminosis (3).

The prognosis is usually reserved for dogs with PLE and median survival time of less than 6 months or with one year survival to less than 50% reported in several publications. However, two summaries report average survival time over a year in a few dogs (4).

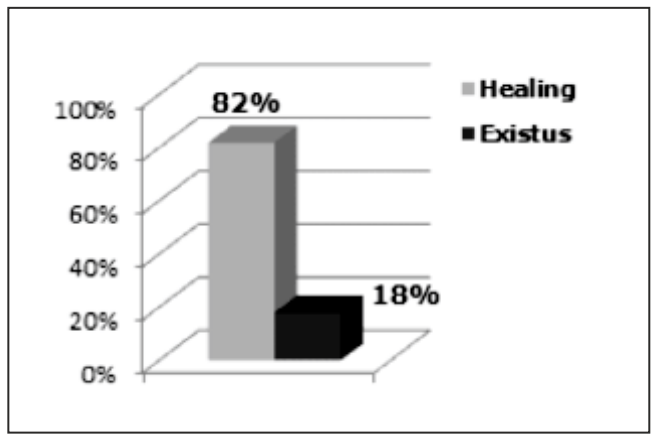

Fig. 3. Evolution of Protein losing enteropathies

In the present study, the 82% with a favorable evolution of albumin-losing enteropathies doesn't show the same result as previous studies, so the presence of hypoalbuminemia correlated with symptomatology does not decisively orient the prognosis.

CONCLUSION

The percentage of intestinal diseases with albumin loss is common in practice and the clinical signs found associated with the degree of hypoalbuminemia did not have a prognostic value in our study.

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