NUTRITIONAL MANAGEMENT IN CHRONIC ENTEROPATHY WITH CONCURRENT PROTEIN-LOSING ENTEROPATHY: ONE CASE

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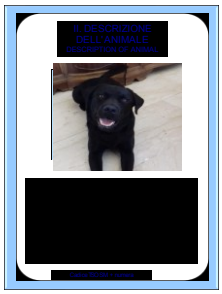


MEDICAL HISTORY

Argos arrived on 15th July 2017.

Body Weight: 25 kg

Ideal Weight: 30 kg

Symptoms: Chronic diarrhea, anorexia, hypoalbuminemia, low total protein levels.

BCS AND MCS

BCS: 3.5/9

MCS: mild muscle mass

ANALYSIS

ANALYSIS	RESULT	RANGE
WBC	25.8	6 – 17
Neutrophils	90	60 - 70
Total Protein	2.6	5.400 - 7.500
Albumin	1.1	2.500 - 4.700
Magnesium	1.6	1.7 – 2.8
Calcium	8.45	8.4 – 11.2
Cholesterol	38.8	130 - 290
Triglycerides	31.6	50 - 169
BUN	50	10 – 60
Creatinine	1.4	0.3 – 1.4
Urinary proteins	+	Negative
Urinary leukocyte	+	Negative

FURTHER INVESTIGATION

Endoscopic and full-thickness surgical gastrointestinal biopsies were obtained and evaluated microscopically.

Histopathology revealed lymphoplasmacytic enteritis.

DIAGNOSIS

Chronic Enteropathy characterized by a diffuse infiltration of inf[illegible] of the intestine.

LYMPHANGIECTASIA

Lymphangiectasia is frequently also present hypoalbuminaemia.

Lymphangiectasia is a condition characterized by dilation of the lymphatic vessels and leakage of lymph from the villi or from deeper portions of the intestinal wall into the intestinal lumen.

It is attributed to loss of lymph into the lumen of the intestine.

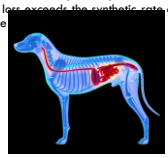
However, dogs with lymphangiectasia can also show decreased lymphocyte count, hypocholesterolaemia, hypocalcaemia and hypomagnesaemia.

(Simmenson et al., 2014)

PROTEIN-LOSING ENTEROPATHY (PLE)

PLE is a clinical condition characterized by net loss of protein from the gastrointestinal tract resulting in hypoalbuminaemia, ascites, pleural and pericardial effusions and growth retardation from malnutrition.

The loss of albumin in patients with PLE is primarily from the small intestine and is clinically significant when the loss exceeds the synthetic rate of the liver, which in man, can compensate at up to twice



(Malatos et al, 2018; Waldmann, 1966)

PROTEIN-LOSING ENTEROPATHY (PLE)

In dogs, PLE is frequently observed as a consequence of chronic small intestinal disease.

There are three major causes for PLE in dogs including:

- Such as severe parasitism and fungal enteritis;
- Idiopathic inflammatory bowel disease (IBD);
- Intestinal neoplasia (particularly intestinal lymphoma);
- Primary intestinal lymphangiectasia;
- Food-responsive enteropathy;

(Jacinto et al, 2017; Hall et al, 2010; Peterson and Willard, 2003)

THERAPY

Given these hypotheses on EPI pathogenesis, its therapy has 2 main goals:

- Reduce the host's inflammatory response;
- Minimize antigen exposure.

To achieve those goals, treatment protocols may include immunosuppressive drugs, a specific diet, and antibiotics.

Over the past few years, it has become clear that not every IBD patient needs the protocol mentioned above.

In fact, the use of immune-suppressants is recommended only in moderate or severe cases, where the inflammatory cells infiltrate needs to be reduced in order to permit a proper intestinal absorption.

(Marchesi et al, 2018; Guilford et al. 2003)

THERAPY

Otherwise, when the condition is mild a restriction diet may be sufficient to grant remission of signs.

This diet consists:

- **HYDROLYZED PROTEIN** (diets have been successfully used in canine EPI treatment);
- **NOVEL PROTEIN DIET** (which does not trigger a hypersensitivity response to food antigens).

(Marks et al. 2002; Mandigers et al. 2010)

NUTRITIONAL HISTORY

1. Up until a month ago he fed to the taste of chicken (commercial dry food).
2. A Colleague had changed animal protein (commercial dry food) (pig, .
3. **Hydrolyzed animal protein (dry and wet pet food).**

FIRST DIET

THE MEDICAL CONDITION OF ARGOS CONTINUES TO DETERIORATE

TOTAL PROTEIN AND ALBUMIN CONTINUES TO FALL

BEGUN ALBUMIN TRANSFUSION ONCE A WEEK

NUTRITIONAL THERAPY - MER CALCULATION

$MER = K \times BW^{0,75} = Kcal/die$

ACTIVE	K
Inactive dogs	95
Active/kennel dogs	130
Active young adult dogs	140
Older active dogs	105

⟺ $MER = 140 \times 25^{0,75} = 1560$

(Ramsey JJ, 2012)

NUTRITIONAL THERAPY - HOMEMADE DIET

It has been decided to use novel animal and vegetable proteins in homemade diet.
Reduce food antigens.

FOOD	GRAMS
Horse lean meat	650
Manioc flour	140
Horse fat	35
Balancer	12

NUTRITIONAL THERAPY - NUTRITIONAL VALUES

FACTORS	% DM
Protein	40
Fat	15
Total Fiber	1.5
Calcium	0.7
Phosphorus	0.6

FOLLOW-UP – 1 MONTH

ANALYSIS	JULY '17	AUGUST '17
Total Protein	2.6	5
Albumin	1.1	2.5
Body Weight (kg)	25	27

Agos is done with his therapy of albumin transfuse, immunosuppressive drugs and antibiotic.

He never throwed up and his faeces improved.

NUTRITIONAL THERAPY - HOMEMADE DIET

Balanced diet with inclusion of vegetable and oils.

FOOD	GRAMS
Horse lean meat	630
Manioc flour	140
Coconut oil	12
Horse fat	25
Zucchini	200
Balancer	12

NUTRITIONAL THERAPY - NUTRITIONAL VALUES

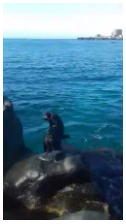
FACTORS	% DM
Protein	35
Fat	16
Total Fiber	3
Calcium	0.7
Phosphorus	0.6

ANALYSIS

ANALYSIS	JULY '17	MAY '18
WBC	25.8	8.6
Neutrophils	90	61
Total Protein	2.6	6.4
Albumin	1.1	3.7
Magnesium	1.6	2.3
Calcium	8.45	10.54
Cholesterol	38.8	230
Triglycerides	31.6	60
BUN	50	47
Creatinine	1.4	1
Urinary proteins	+	Negative
Urinary leukocyte	+	+

ARGOS – MAY '18

ARGOS – AUGUST '18



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