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Usefulness of BioAlberic method for the treatment of hyperlipidemia and obesity in domestic dogs

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The authors B. Hughes, D. Gonzalez and J.A. Ramirez are members of the research group that develops the BioAlberic program in Cuba

Acronyms
DM: diabetes mellitus

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ABSTRACT

Introduction and Objective: Obesity and hyperlipidemia are frequently diagnosed in domestic dogs; however there are difficulties in the treatment of these metabolic disorders in these animals. One of the possible alternative ways of treatment is the use of the BioAlberic method. The objective of this research was to evaluate the effectiveness of the method in the treatment of lipid metabolism disorders in these animals.

Method: A prospective experimental study was designed; the sample was composed of 10 obese adult dogs of different races and sexes suffering from obesity and hyperlipidemia. Treatment consisted of oral administration of BioAlberic Coltricé every 6 hours for 30 days.

Results: Body weight, as well as cholesterol and triglyceride levels were compared at the beginning and end of the study (30 days). It was possible to significantly reduce body weight in all animals (from 35.80 to 30.25 kg in the Dalmatians, and from 16.2 to 8.3 kg in half-breed dogs), as well as cholesterol levels (from 7.92 to 6.20 mmol/L) and triglyceride (from 2.68 to 1.68 mmol/L).

Conclusions: Coltricé administration was effective in reducing body weight and hyperlipidemia in the assessed animal population.

Palabras clave: BioAlberic, Coltrice, hyperlipemics, obesity, dogs

Utilidad del método BioAlberic en el tratamiento de las hiperlipidemias y la obesidad en caninos domésticos

RESUMEN

Introducción y Objetivo: La obesidad y las hiperlipidemias son enfermedades frecuentemente diagnosticadas en caninos domésticos; sin embargo, existen dificultades para el tratamiento de estos trastornos metabólicos en esta especie animal. Una de las posibles vías alternativas de tratamiento la constituye el empleo del método BioAlberic. El objetivo de esta investigación fue evaluar la efectividad del método en el

tratamiento de los trastornos del metabolismo lipídico en esta especie animal.
Método: Se diseñó un estudio experimental prospectivo, la muestra quedó integrada por 10 perros adultos obesos, de diferentes razas y sexos, que padecían obesidad e hiperlipidemia. El tratamiento consistió en la administración del producto BioAlberic Coltricé por vía oral, cada 6 horas, durante 30 días.
Resultados: Se comparó el peso corporal y los niveles de colesterol y triglicéridos, al principio y al final del estudio (30 días). Se logró que descendiera de forma significativa el peso corporal en todos los animales (desde 35,80 hasta 30,25 kg en los dálmatas, y desde 16,2 hasta 8,3 kg en los mestizos), al igual que los niveles de colesterol (desde 7,92 hasta 6,20 mmol/L), y de triglicéridos (desde 2,68 hasta 1,68 mmol/L).
Conclusiones: La administración de Coltricé resultó efectiva en la reducción del peso corporal y la hiperlipidemia en la población de animales evaluada.
Palabras clave: BioAlberic, Coltricé, Hiperlipidemias, Obesidad, Caninos

INTRODUCTION

Hyperlipidemias are common metabolic disorders in dogs. They are characterized by an increase in the concentration of lipids (cholesterol, triglycerides or both) in blood serum, and may affect the cardiovascular system, among others[1].

Hyperlipidemias may be of primary origin, due to a defect in lipoprotein metabolism[2], but are often present in dogs suffering from pancreatitis, obesity and diabetes mellitus, among others diseases[3, 4].

According to Elliot[5], whether the source is primary or secondary to other conditions should be determined in order to establish a treatment. Efforts to reduce lipid levels should be made in order to prevent complications such as atherosclerosis and pancreatitis, among others. Regarding the use of drugs, there are few reports of their use in dogs. However, the administration of omega 3 fatty acids, niacin and fibric acid derivatives (clofibrate, ciprofibrate, gemfibrozil) in order to reduce production of very low density lipoproteins has been indicated, but adverse effects such as vomiting, diarrhea and abdominal pain on palpation have been found[5]. Medicinal herbs such as *Allium sativum* (garlic) [6] and the *Aloe vera* (aloe) [7] have also been used; however, inhibitors of the hydroxymethylglutaryl coenzyme A reductase enzyme are the most effective drugs by increasing cholesterol catabolism of low density lipoproteins and decreasing their plasmatic levels[1, 2].

In seeking solutions to the inconveniences of the treatment for hyperlipidemia and obesity in domestic dogs, the application of an alternative was considered. Besides being effective, it would be economically and ecologically viable, noninvasive, easy to apply, available and with no side or secondary effects. The selected alternative was the BioAlberic method, which is being developed in Cuba[8]. By this method, products that capture the vibrations emanating from living organisms are obtained, and are used therapeutically in the control, recovery or eradication of several diseases[9].

BioAlberic is a registered trademark in Cuba[8], with different products being tested, among which is Coltricé. The objective of this study was to evaluate the efficacy of this treatment modality in the treatment of hyperlipidemia and obesity in domestic dogs.

METHOD

Definition of the study

A prospective exploratory experimental study was conducted including 10 adult dogs (5 females and 5 males) aged between 7-10 years, breeds Dalmatian and Mongrel , that were taken to José Luis Callejas Pet Animal Clinic in Havana, Cuba. These animals were brought to this institution for presenting breathing difficulty, slow and painful walking, skin diseases, and overweight at observation.

Anamnesis and a thorough clinical examination of animals were conducted, and the individual medical history was made.

Weight

The animals were weighed on a TEHTNICA TTM-130 standing scale, with a range between 2 and 130 kg and 100 grams sensitivity, at diagnosis and start of treatment, and at 30 days of evolution. The standard body weight, according to the International Cinologic Fe-

deration[10] was chosen as the reference value: Dalmatian male, 27-32 kg, and females, 24-29 kg. In the case of mongrel dogs, reference values were taken from the clinic where the study was conducted, which range from 6.0 to 8.0 kg, as the literature does not describe values for this genetic basis.

The obesity criteria stated by Merck[11] was followed, which considers 15% above the body weight set for the breed standard.

Laboratory tests

Complementary tests, on an empty stomach, were conducted at the clinical biochemistry laboratory (cholesterol and triglycerides). They were repeated after 30 days of treatment. Total cholesterol was performed by using the cholesterol oxidase-peroxidase enzymatic method[12], and triglycerides by an enzymatic method according to Schettler and Nüssel[13].

As physiological levels for cholesterol, those less than or equal to 6.2 mmol/L (240 mg/dl) were established, and for triglycerides, those less than or equal to the range 1.69 to 2.25 mmol/L (150-200 mg/dl), according to Nelson[14].

Treatment

Once the diagnosis of obesity and hyperlipidemia was confirmed, treatment with the use of the product Coltricé in aqueous solution (5 ml vials) was started. The content of the vial was diluted in 1.5 liters of drinking water and between 10 to 20 ml were administered orally, according to the weight of each animal, every 6 hours for 30 days.

Statistical Analysis

The SPSS version 11.5 was used for the analysis of the results, simple statistics were calculated and a significance level of p 0.05 was used.

RESULTS

When assessing body weight ranges, it was found that it decreased significantly ($p < 0.05$) in all dogs after 30 days of treatment (Table 1). Dalmatian females (30.25 to 30.50 kg) and mongrel males (8.5 to 8.9 kg) were those that experienced greater weight loss.

Triglyceride levels at diagnosis were higher in females compared with males of both breeds (Table 2), the highest numbers were found in mongrel females (2.50 to 2.72 mmol/L), and in the Dalmatians, the range was from 2.35 to 2.68 mmol/L. At the end of the period of time analyzed, it was possible to reach in all cases the range established as the physiological one (1.69 to 2.25 mmol/L).

When assessing the results concerning cholesterolemia (Table 3), it was perceived that mongrel females had higher levels (7.92 to 8.50), and after 30 days there had been a decrease in these values in all animals analyzed, although only some males from the Dalmatians group reached the limit established as physiological. Generally, in this group, there were more animals of both sexes which approached the desired values, because in the mongrel group the lower limit reached (a female) was 6.66 mmol/L.

DISCUSSION

Excess lipid levels was associated with obesity, as all dogs, regardless of their breed and sex, exceeded the normal body weight. Some authors[3,4] indicate the frequency of this association, and others[15,16] have

Table 1. Range of dogs' body weight at diagnosis and after 30 days of treatment, by breed and sex.

Body weight (kg)	Dalmatians		Mongrel	
	Females	Males	Females	Males
At diagnosis	33,35 - 35,80	34,20 - 37,95	11,3 - 15,9	12,5 - 16,2
At 30 days	30,25 - 30,50	32,10 - 33,12	8,3 - 8,7	8,5 - 8,9

$p<0.05$

Table 2. Range of triglyceride levels at diagnosis and after 30 days of treatment, by breed and sex.

Triglycerides (mmol/L)	Dalmatians		Mongrel	
	Females	Males	Females	Males
At diagnosis	2,35 - 2,68	2,22 - 2,51	2,50 - 2,72	2,46 - 2,65
At 30 days	1,75 - 1,80	1,71 - 1,79	1,72 - 1,84	1,68 - 1,75

$p<0.05$

Table 3. Range of cholesterol levels at diagnosis and after 30 days of treatment, by breed and sex.

Cholesterol (mmol/L)	Dalmatians		Mongrel	
	Females	Males	Females	Males
At diagnosis	7,85 - 8,30	7,70 - 7,75	7,92 - 8,50	7,70 - 8,48
At 30 days	6,22 - 7,80	6,20 - 7,77	6,66 - 7,86	6,70 - 7,88

$p<0.05$

found the presence of both disorders in domestic dogs.

The results obtained in this study show that with the use of Coltricé, body weight as well as triglyceride and cholesterol levels could be reduced in the dog population assessed. It is noticeable that the positive response to treatment occurred in 100% of the animals studied. It is likely that weight and serum cholesterol levels had normalized with longer treatment duration.

The techniques of BioAlberic method are based on the fact that all living organisms emit a vibrational spectrum in the form of electromagnetic waves. These waves from healthy organs are called physiological ones and those emitted by diseased tissues or organs are considered pathological ones. All these waves are captured by biosensors that store them so they can be transmitted back to make them coincide with those from the affected areas, and thus stimulate cellular electromagnetic interaction, with its consequent physiological response, to reverse or alleviate the health problem[8].

This is one of the first studies in domestic dogs with the use of BioAlberic method for the treatment of hyperlipidemias. There are no other relevant publications with which to compare our results.

Coltricé is considered to be promising for the treatment of animals with these diseases, as it is an economical product, easy to use and had no adverse effects. These preliminary results are encouraging and open new horizons in the treatment options for these lipid disorders.

CONCLUSIONS

The use of the BioAlberic product Coltricé was effective for the treatment of obesity and hyperlipidemia in the group of Dalmatian and mongrel dogs treated.

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