CHAPTER
66

Splenectomy in cases of splenic Hemangiosarcoma

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Vanessa Gonçalves de Andrade
Student in Veterinary Medicine at the State University of Goiás, São Luís de Montes Belos, GO, Brazil.

Ana Maria Guimarães Carvalho
Student in Veterinary Medicine at the State University of Goiás, São Luís de Montes Belos, GO, Brazil

Bianca Jacqueline Silva Fernandes
Student of Veterinary Medicine at the Pontifical Catholic University of Goiás, Goiânia, GO, Brazil.

Igor Leonardo Resplandes Borges
Student in Veterinary Medicine at the State University of Goiás, São Luís de Montes Belos, GO, Brazil

Ivan Ricardo Matos Espíndola
Student in Veterinary Medicine at the State University of Goiás, São Luís de Montes Belos, GO, Brazil.

Ívina Myrelle Santana Oliveira
Student in Veterinary Medicine at the State University of Goiás, São Luís de Montes Belos, GO, Brazil

Karoline Pereira de Sousa
Student in Veterinary Medicine at the State University of Goiás, São Luís de Montes Belos, GO, Brazil

Thiago Viríssimo Rocha Silva
Student in Veterinary Medicine at the State University of Goiás, São Luís de Montes Belos, GO, Brazil.

Vitória Fernanda Ferreira da Silva
Student in Veterinary Medicine at the State University of Goiás, São Luís de Montes Belos, GO, Brazil

Vyrginia Stheffany Fernandes dos Santos

ABSTRACT
Hemangiosarcoma is a neoplasm of the vascular endothelium, extremely aggressive and highly metastatic, which can affect several organs. However, the spleen is one of the most commonly found in dogs that have this type of alteration. The spleen is an organ that has several important functions for the homeostatic functioning of the animal organism, however, in the treatment of this neoplasm, the recommendation is that a total splenectomy be performed together with antineoplastic chemotherapy. In order to carry out this procedure, it is important that the entire clinical status of the animal be analyzed in advance, in addition to carrying out laboratory and imaging tests, with computed tomography being indicated for surgical planning. Despite being a technique that removes an organ, the animal can still live well without it, and the surgical procedure may prolong the lives of those with splenic hemangiosarcoma.

Keywords: Spleen, Surgery, Removal, Treatment.

1 INTRODUCTION

The canine population has increasingly increased its survival, with that, age-related problems have increased their rates, including neoplasms. The spleen, as an organ that has the function of capturing old cells and eliminating them, in addition to recycling blood tissue, becomes predisposed to several changes, whether in size or functionality, and can also be affected by neoplastic anomalies. Among the neoplasms that most affect this organ is hemangiosarcoma, a malignant tumor originating from endothelial cells of a highly aggressive nature, accounting for 80% of cases of localized splenomegaly (CAMPOS; MATERA; CAMPOS, 2011).

Hemangiosarcoma (HSA) can affect several organs in addition to the spleen, including the liver, lungs, heart and kidneys (MARINO et al., 1994), however, in a study carried out by Soares et al.

(2017), observed that of 23 dogs diagnosed with visceral hemangiosarcoma, 15 had its location in the spleen, this organ being more affected than the others mentioned above. The most commonly found clinical signs are: weakness, anorexia, lethargy and signs of acute collapse, however these signs are very nonspecific and can be suggestive of several other diseases (LEE et al., 2018).

Exams such as ultrasonography and radiography of the abdominal region are extremely important to aid in the diagnosis, but for it to be definitive, a histopathological examination must be performed. Regarding treatment, splenectomy associated with antineoplastic chemotherapy is indicated (ALVARADO; MUNHOZ, 2022). The objective of this work was to demonstrate surgical treatments for splenic hemangiosarcoma.

2 BIBLIOGRAPHIC REVIEW METHOD

Periodic CAPES platform was used to carry out bibliographical research in scientific articles; textbooks on small animal surgery and anatomy.

3 LITERATURE REVIEW

Splenectomy is a surgical technique for removal of the spleen, which can be performed partially in cases of traumatic injuries, or removing the organ completely in cases of splenic neoplasms, torsion and severe trauma (FOSSUM, 2014). The spleen is an organ rich in smooth muscle fibers and is located within the peritoneum and located caudally to the diaphragm, in addition, it is attached to the stomach by means of the gastrosplenic ligament, having two faces, diaphragmatic and visceral.

This organ has several functions, including the storage and concentration of erythrocytes already worn out from the circulation, production of lymphocytes and monocytes, among others. However, despite this he is not considered essential to the lives of dogs, and can be removed, and even then these animals can have healthy lives. (KÖNIG; LIEBICH, 2016).

A study carried out at the Hospital Veterinário Anhembi Morumbi, by Backschat et al., (2012) demonstrated that dogs that had been surgically treated, with splenectomy, for hemangiosarcoma, had a lifespan of between 19 and 143 days, however, those who were treated with total splenectomy associated with antineoplastic chemotherapy, had a mean survival of 267 to 285 days.

Partial splenectomy is a procedure that will preserve the splenic function. To aid the procedure, it is important to use tweezers, which will be placed in the flattened portion, dividing the spleen. After this division, the cut surface will be closed in a continuous pattern, with absorbable thread, being able to use two layers of suture in cases of persistent hemorrhage (FOSSUM, 2014).

Because it is indicated for cases where there is abdominal trauma, partial removal of the spleen is not the technique of choice for cases of splenic hemangiosarcoma, which differs from total removal,

which is the technique indicated for the treatment of this type of tumor. However, Kahn et al. (2013) reported that even removing the tumors completely, and in the case of the spleen, the entire organ as well, this surgical treatment will be considered palliative, but when associated with chemotherapy, it may prolong the life of the affected animal.

In total splenectomy, phagocytic and red blood cell reserve functions will be nullified, as in this case the spleen is completely removed. In this technique, the first step is to explore the abdomen, exteriorizing the spleen. After the ligament process and the step of incising the vessels of the splenic hilum, preferably with absorbable suture, a vessel sealing device must be used, preserving the gastric branches, if possible. In cases where the animal has bone marrow hypoplasia, this procedure should not be performed (FOSSUM, 2014).

Hemangiosarcoma is a very aggressive neoplasm, but it can be treated, either to increase the animal's life span or to relieve the animal of pain, discomfort or other problems that may be developing as a result of this tumor. For this, it is important to understand the etiopathogenesis of the disease and the surgical technique, splenectomy, which is the treatment of choice in animals that have splenic hemangiosarcoma.

4 FINAL CONSIDERATIONS

Splenic hemangiosarcoma is a serious neoplasm, however, understanding the behavior of the disease is of great importance so that surgical treatment and antineoplastic chemotherapy are performed. Despite the possibility of treatment, it is important that a physical and clinical analysis of the animal is carried out to follow the best procedure for it, as each case must be treated individually. However, we can observe that performing the surgery to remove the spleen may prolong the days of the animal's life or provide a sense of well-being for it.

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