



P-12. TOMOGRAPHIC STUDY OF PULMONARY LESIONS OBSERVED IN CATS NATURALLY INFECTED BY *DIROFILARIA IMMITIS*

García-Rodríguez, S.N.¹, Matos, J.I.¹, Costa-Rodríguez, N.¹, Falcón-Cordón, Y.¹, Carretón, E.¹, Montoya-Alonso, J.A.¹

¹Internal Medicine, Faculty of Veterinary Medicine, Research Institute of Biomedical and Health Sciences (IUIBS), University of Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain, saraniieves.garcia@ulpgc.es

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Cardiopulmonary disorders caused by *Dirofilaria immitis* in the feline species have increased their relevance in recent years due to the clinical importance of this disease in endemic areas. The use of diagnostic techniques has been based mainly on the use of radiographs and serological tests. However, the recent use of Computed Tomography (CT) is proposed as an accurate and highly sensitive method to detect cardiorespiratory injuries. Despite this, few studies have been carried out in cats with the disease. The objective of this study was to assess the tomographic findings observed in cats naturally infected by immature larvae of *D. immitis* (Heartworm Associated Respiratory Disease). A total of 10 cats (3 males and 7 females) naturally infected by immature larvae of *D. immitis* were submitted CT at the Veterinary Clinical Hospital of the University of Las Palmas de Gran Canaria, between May and July 2022. Data on age, breed, sex, habitat and symptoms were collected. All owners gave their consent to perform the tests. The animals were monitored and the same anesthetic protocol was used in all cases. CT exams were obtained through 1 mm thick sections, using helical CT scanner (Toshiba Astelion, Toshiba Medical System, Madrid, Spain), whose views were visualized in the pulmonary window (W 1500, L 600). After this, the studies were evaluated using DICOM image analysis software. Pulmonary and cardiovascular inflammatory lesions caused by *D. immitis* were studied in all animals, based on the number of affected lung lobes, the degree of increased opacity, and the location of the lung region. The results showed the presence of signs of a multifocal interstitial pattern, tortuous and enlarged pulmonary arteries, with perivascular pulmonary infiltration and signs of consolidation in the cats studied. The previously described lesions were found mainly in the caudal lobes in 80% of the animals analyzed. Furthermore, the lesions were diffuse and bilateral affecting the entire pulmonary parenchyma. The lesions evaluated were mainly of a moderate nature, being present in 60% of the cats. However, a 10% of cats presented mild character and 30% of cats showed severe nature. Finally, the main distribution pattern was infiltrative multifocal in 40% of cats. The results shown demonstrate that this technique has been able to characterize thoracic lesions in all the naturally infected cats studied, being able to explain the phenomena of bronchopneumonia, thromboembolism, and pulmonary hypertension. It is proposed to continue studying the lesions observed in parasitized cats. For this, a greater number of samples and control cats are required, in addition to effective diagnostic protocols for the standardization of the method. The present study was supported by Merck Sharp and Dohme Animal Health, S.L (CN-240/030/158).

References

1. Panopoulos, I., Specchi, S., Soubasis, N., Papasteganou, A., Brellou, G., & Auriemma, E. Multidetector computed tomographic pulmonary angiography in a cat with fatal heartworm disease. *Veterinary Radiology and Ultrasound* 2017; 1-5.

