

Radiographic and ultrasonographic evaluation of thymus in mongrel dogs

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Abstract

The thymus is an organ of the lymphatic and immune system that has great importance in young animals. This study aimed to evaluate the dimensions, echogenicity and location of the thymus in healthy mongrel puppies during the first 5 months of life using radiography and ultrasonography. For this study, two pregnant bitches from mongrel breeds were prepared and five healthy male puppies isolated after their parturition for monthly evaluation in the first 5 months of life. Radiographic evaluation of the thymus was done on plain radiographs in right lateral and ventrodorsal views. Ultrasonography also was performed with a 7.5 MHz linear transducer, while the animal was restrained on dorsal recumbency position and slightly tilted to the right or left side. Based on a two-way analysis of variance, only age had a significant effect on the dimensions of the thymus gland. The highest means (\pm SD) of length, width, surface and volume of the thymus were estimated 32.00 ± 2.35 mm, 7.08 ± 0.43 mm, 1.62 ± 0.5 cm² and 0.72 ± 0.38 cm³, respectively, at 2 months-old puppies. On the other hand, the lowest means (\pm SD) of length, width, surface and volume of the thymus were estimated 24.26 ± 2.29 mm, 6.08 ± 0.28 mm, 1.16 ± 0.44 cm² and 0.47 ± 0.21 cm³, respectively, at 5 months-old puppies. Thymus shadows were observed in only four radiographs taken from the ventrodorsal view of puppies. Based on the findings of the present study, it can be concluded that the thymus of mongrel puppies was regressed at about 4 months-old and ultrasonography as an available and method of choice can determine the exact dimensions of the thymus compared with X-ray examination.

Conflict of interest: None declared.

Key words: Dog, Thymus, Radiography, Ultrasonography

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