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Author(s)	TAMURA, Makiko
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ULTRASONOGRAPHY OF MASS LESIONS IN DOGS AND CATS

Makiko TAMURA

*Veterinary Hospital
Faculty of Veterinary medicine
Hokkaido University, Sapporo 060, Japan*

Ultrasonography is an accurate and non-invasive method of depicting mass lesions. The purposes of this study were : 1) to characterize the images of mass lesions which exist in the subcutis, intra-abdomen and intra-thorax, ; 2) to assess the internal architecture of mass lesions ; and 3) to evaluate invasive growth of mass lesions in or around the affected organs, including intra-abdominal adhesions.

In this study an electronic ultrasound scanner (EUB-450 : Hitachi Medical Corp.) with linear or convex transducers (3.5 to 7.5MHz) was used. 24 dogs and 6 cats were surveyed. Another 5 mongrel dogs were also studied for image evaluation of intra-abdominal adhesions.

Subcutaneous mass lesions studied here were ; lipoma, lymphosarcoma, mastocytoma, hemangiopericytoma, myxoma, granuloma and cyst. Ultrasonography is useful for assessing the degree of invasiveness of subcutaneous tumors.

Intra-abdominal mass lesions studied were ; hepatocellular carcinoma, hemangioma, mesothelioma, lymphosarcoma, liposarcoma, colon carcinoma, transitional cell carcinoma, hematomata and cholecystitis. Ultrasonography is useful in confirming the origin of these mass lesions and defining the extent of mass lesions in or around the affected organ.

Intra-thoracic mass lesions studied were ; thymoma and lymphosarcoma. Both air in the lungs and heart movement made clear imaging difficult. The existence of pleural effusion was helpful for imaging intra-thoracic organs and tissues.

The mass lesions studied here were malignant tumors, benign tumors and non-neoplastic lesions. These mass lesions can be differentiated by differences in their echo patterns. Benign tumors displayed homogeneous echo levels and defined margins of the mass. The mass lesions of the malignant tumours showed irregular margins and were less homogeneous, usually with a focally hypoechoic area. However it was difficult to precisely differentiate malignant tumors based on echo patterns.

Ultrasonography is useful for assessment of mass lesions, because of its ability to characterize the internal architecture. It is also useful for confirming the organ of origin of mass lesions, and defining the degree of invasion of affected organs.