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USE OF SONOGRAPHY IN DIAGNOSIS OF ABDOMINAL DISORDERS IN THE DOG AND CAT

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Ultrasonography (USG) was applied to observe abdominal disorders in dogs and cats in clinical and experimental cases. The instrument used in this study was an electronic ultrasonograph linear scanner of (EUB-25M : Hitachi Medical Corp.) with a 5MHz transducer. In this study, 124 dogs and 53 cats were used. In addition, ethylene glycol was administrated experimentally to 4 dogs. The results are summarized as follows :

1. Liver : In some cases of instrahepatic cholungiocellar fibroadenomatosis and hepatic cirrhosis, the sonographic appearance of the parenchyma revealed coarse and heterogeneous echoes.

2. Gallbladder : The following two sonographic patterns of the thickened wall of the gallbladder were found ; (a) a hyperechoic band, (b) a tri-lamellar structure.

3. Spleen : The sonographic appearance of splenic tumor showed a heterogeneous as well as a coarse and complex echo Pattern.

4. Kidney : In the many cases, there was a relatively high correlation between the sonographic appearance of the kidney and histological and hematological findings, suggesting that higher BUN and creatinine levels and a more marked proliferation of interstitial connective tissue lead to a less clear sonographic appearance of the cortico-medullary junction, together with an increased echo level of the kidney.

5. Urinary bladder : Calculi were strongly echoed by acoustic-shadows, and crystals and mucopus possessed echogenicity.

6. Genital organs : Pyometra appeared as an anechoic tubular mass displaying far enhancement. The sonogram of mammary gland was obtained through the intermediary of a water balloon between the transducer and mammary gland.

7. Four dogs were orally given 5ml (No. 1), 10ml (Nos. 2 and 3), 20ml (No. 4) of ethylene glycol/kg of body weight. The nephrosonographic images had increased echogenicity, and showed the enlarged kidney. The sonographic appearance of kidneys (No. 3 and No. 4) showed more increased echogenicity than No. 1 and No. 2, and showed a hyperechoic band at the medulla. The increased echogenicity of the kidney may reflect the deposition of calcium oxalate crystals in the tubules.

From the above results, it was concluded that several abdominal disorders may be detected and characterized by USG.