ULTRASONOGRAPHY OF HEPATIC LESIONS IN DOGS AND CATS

Tomoko TAMURA

Veterinary Hospital,
Faculty of Veterinary Medicine,
Hokkaido University, Sapporo 060, Japan

Ultrasonography was performed on dogs and cats suspected of having hepatic disorders by radiography and/or serum chemistry profile. The characteristic appearance of lesions, a contracting liver lobe and invasive growth of the focal lesions in parenchyma of the liver were discussed. Sonographic assessment of liver size was also attempted in experimental dogs.

The apparatus used in this study was an electronic ultrasound scanner (EUP–450 : Hitachi Medical Corp.) with linear and convex tranducers from 3.5 to 7.5 MHz. Twenty-five dogs and 4 cats admitted to the Veterinary Hospital of Hokkaido University and other 7 dogs were examined.

Focal hepatic lesions studied here were hepatocellarcarcinoma, metastatic carcinoma, liposarcoma, hemangiosarcoma, hepatic cysts, hematoma and areatus masses. Hepatocellular carcinomas were categorized into three types by their shapes and echogenicity according to the human classification. Metastatic carcinoma showed a focal hypoechoic pattern. Sonographic appearances obtained from liposarcomas were considered to be characteristic of the tissue content. Hemangiosarcoma showed a mixed pattern with beehive-like anechoic or hypoechoic areas, whereas hepatic cysts were imaged as anechoic areas with smooth borders and posterior echo enhancement. Ultrasonic features of hematoma and areatus masses were difficult to distinguish from those of other neoplasias.

Diffuse hepatic diseases studied here were congestion, fibrosis, cirrhosis and atrophic liver. Dilated veins and dullness of the hepatic margin were specific patterns for congestive liver. The heterogeneous increase of the parenchymal echogenicity signified fibrosis. Degenerating nodules of cirrhosis appeared as multifocal hypoechoic lesions. Although a definite diagnosis could not be made for microhepatica, dilated portal veins and splenomegaly, a portosystemic shunt was suspected.

Biliary system disorders studied here were acute to subacute cholecystitis, chronic cholecystitis and intracholecystic abnormal echoes. The thickened wall of the gallbladder and an intracholecystic inflammatry exudate were common findings in cholecystitis.

As mentioned above, ultrasonography can offer much useful information about various hepatic and biliary system disorders. Additionally, most of them cannot be confirmed by radiography or other diagnostic methods. A significant correlation between sonographic measurements of liver and liver weight was found. Therefore, ultrasonography is recognized as a beneficial diagnostic technique for small animal practice.