

Measurement of normal renal artery indices in DSH cats by Doppler ultrasonography

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Abstract

Doppler ultrasonography is an important method in diagnosis of renal diseases. Obtained results about vascular anatomy and hemodynamic are helpful in diagnosis of many abnormalities. Renal diseases are common in old cats. Decreased renal blood flow may be the first sign of dysfunction and can be evaluated by doppler ultrasound. The purpose of the present study was to detect the normal images of color doppler and measurement of blood flow velocity parameters of renal arteries, interlobar arteries and abdominal aorta in adult cats. Therefore, twenty clinical healthy cats (10 male and 10 female) were selected of DSH (Domestic Short Hair), with an age mean of 18 months and a weight mean of 2.7 kg. In the present survey, indices of vascular (abdominal aorta and renal arteries) included PSV, EDV, RI, PI, MV, VF and pulsed Doppler spectral were measured. The mean of PSV and EDV of the abdominal aorta artery in the studied cats were 72.77 and 14 Cm/second respectively. The mean of RI, PI, MV and VF of abdominal aorta were 0.91, 2.7, 32.78 and 3.4 respectively. The values of PSV, EDV, and RI were 12.25, 33.85 and 0.72 in the artery of right kidney and 11.80, 33.83 and 0.73 in the artery of left kidney. The values of PSV, EDV, and RI were 9.72, 22.26 and 0.58 in the interlobar arteries in the right kidney and 9.26, 22.12 and 0.59 in the left renal interlobar vasculatures. There were no significant difference between different groups (due to gender and right and left kidneys). The obtained results can be used as a natural indicator in the diagnosis of related diseases in cats.

Key words: Ultrasonography, Doppler, Renal Artery, Abdominal Aorta, Cat

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