Contrast Agents
Computer Aided Diagnosis
Ultrasonographers and the Prostate
Facial Clefts
Image Quality
3D Intravascular Ultrasound
Postmenopausal Bleeding

Abstracts of the BMUS 36th Annual Scientific Meeting
Results: Anterior urethral structure location was equally well assessed with US and contrast urethrography. Structure length of anterior structures appeared longer on US by 21% (range 9-159%). However, the depth of spangoliposa could only be assessed with US. The mean depth of posterior structures was 6.1 mm (3-9 mm), for bulbar stricture with spangoliposa and 2.5 mm (2-4 mm) for bulbar necrotic stricture. The mean length of anterior structures was equally well assessed with either contrast or US urethrography. However, the external extent for the stricture lesion, structure definition or false passages was better demonstrated on contrast urethrography.

Conclusion: Contrast urethrography was better for assessing the posteri or urethra, but US visualization US urethrography was better for assessing the anterior urethra. "Painless" and "transient" treatment of spangoliposa. This may help to guide management options in anterior urethral strictures, especially in the bulbar urethra.

Veterinary

The Echocardiographic Assessment of Congenital Heart Disease in Small Animals, Isabel JM, NV Animal Cardiac/Veterinary Consultancy, Belgium

The echocardiography should be familiar with common cardiac malformations. Its associated clinical signs, the repercussions for breeding and the possibilities of conservative or palliative treatment. Accurate assessment will require Doppler echocardiography and referral to a veterinary echocardiologist.

Despite many American papers and textbooks stating that Patent Ductus Arteriosus (POA) is the most common cardiac defect in dogs. In Britain and Europe it appears that atrial stenosis is more prevalent. Pulmonary stenosis is the third most common defect in dogs. In cats mitral and tricuspid dysplasia are the most common CHD followed by venous atrial defects. However, cats have often multiple congenital defects.

Aortic stenosis commonly affects breeds like Boxes, Golden Retrievers, Retrievers, German Shepherds and Newfound dogs (NSU). It can be vascular, sub-valvular and supra-valvular. This is the most common form. Its severity depends on the pressure gradient across the stenotic area (min. <30 mm Hg, moderate 40-60 mm Hg and severe >60 mm Hg). Secondary left ventricular hypertrophy with sub-endocardial hyaline degeneration is often a sign of severe AS. Many purebreds and short-haired cats have been reported in the different echocardiographic studies published. In a retrospective UK study (36 dogs) colour Doppler echocardiography revealed the presence of concomitant defects in 10% of the cases. In this study, analysis of the M-Mode echocardiographic findings showed that not all animals did not have a normal left ventricular end diastolic diameter. In cases of increased left ventricular diameter in dilated and dysplastic, left ventricular wall thicknesses were more often within normal limits. There was a wide variation in FS. The left atrium appeared enlarged in 35% of the cases. Concomitant mitral regurgitation across the aortic valve was more than 1.0 cm/s in 35% of the cases (range 0.3-3.7 cm/s) and was attributed to volume loading. Biventricular or Concomitant mitral regurgitation and left ventricular enlargement were more common than normal ventricular size. Pulmonary stenosis was the most common form in veterinary medicine. This form can be subdivided in Type A (normal pulmonary artery diameter with parahedral-like valve) and Type B (sinus hypoplasia and a dysraphic valve). The severity depends on the pressure gradient across the valve (min. <30 mm Hg, moderate 30-60; severe >60 mm Hg). In both cases, this has been associated with robber congenital arrhythmia. Valvular PS is the most common form in veterinary medicine. This form can be subdivided in Type A (normal pulmonary artery diameter with parahedral-like valve) and Type B (sinus hypoplasia and a dysraphic valve). The severity depends on the pressure gradient across the valve (min. <30 mm Hg, moderate 30-60; severe >60 mm Hg). In both cases, this has been associated with robber congenital arrhythmia. Venous atrial defects are associated with relatively mild pulmonary stenosis. There is often decreased left ventricular wall thicknesses and decreased left ventricular filling.

Mitral dysplasia is most commonly reported in cats and in some cases in Great Danes, German Shepherds and Retrievers. In the UK the Bull Terriers are commonly affected. It represents a complex of thickened valve leaflets, annulus anomaly, short or long chordae tendinae, abnormal papillary muscles and abnormal or absent implantable mitral valve.

Necrotic stenosis is a severe form of mitral dysplasia and is most commonly seen in Bull Terriers. It is often associated with severe mitral regurgitation. Mitral necrotic stenosis (MS) is associated with a poststenotic RV hypertension. Pulmonary stenosis (PS) is not involved in the same degree. Mitral regurgitation is often severe and may lead to mitral valve prolapse (Eisenmenger) and abnormal mitral valve leaflet motion. This is a proportion in male Labrador and Cesky, Great Danes and Irish setters have also been reported.

Tricuspid stenosis is uncommon and gives similar findings. But then on the right side of the heart, as MS.

Most ventricular septal defects are very high. Mural ventricular septal defects are uncommon in small animals. Perimembranous VSDs are not uncommon in cats. It was recently reported in a family of English Springer Spaniels. VSDs are divided into restricted and non-restricted depending on the pressure gradient across the two ventricles (n-a restrictive). Mitral septal defects are most commonly seen as an incidental finding in Boxers, Samoyeds and Scottish Terriers. Juxtaposition of endocardial and subendocardial myocardial region that are classified as septal or anterior, posterior or inferior (outflow tract) coronary sinus and recent focal mitral valve defects.

Tetralogy of Fallot is a combination of a VSD, pulmonic stenosis, hypoplasia of the aorta and secondary right ventricular hypertrophy. It is the most common congenital cardiac defect in the dog. Other uncommon congenital heart diseases include pure arterial valve incompetence, pulmonary stenosis, and pulmonary atresia with pulmonary stenosis with ASD. These features will be shown in the section.

References available upon request

The Effect of Sedation on Diastolic Echocardiographic Variables in Healthy Cats, Lisa Fuentes, V. Sohmer, KS, Bonagura, JD Department of Veterinary Medicine and Surgery, University of Missouri-Columbia, Columbia, MO 65211, USA

It is difficult to obtain an electrocardiogram echocardiographic records in unsedated cats. The effect of sedation on Doppler echocardiographic variables have not been explored in cats. Seven healthy cats were scanned by one experienced veterinary echocardiographer under each of the three different sedative regimens: lidocaine (1 mg/kg SC), atropine (0.05 mg/kg SC) and midazolam with the cycle of acetylcholine (1 mg/kg IV) and pancuronium (2 mg/kg IV). All measurements were made by one experienced observer.

Heart rate (HR) was initially higher (p < 0.05) in the cats sedated with ABK (152 + 30 bpm versus 132 ± 21 bpm in the unsedated group and 154 ± 24 bpm in the midazolam group and 131 ± 19 bpm in the atropine group). The HR was similar in all 4 groups by the end of the study period (unsedated 147 ± 28 bpm, ABK 155 ± 29 bpm, ABK 154 ± 28 bpm, ABK 162 ± 33 bpm). All ventricular end-diastolic area was decreased in the sedated cats (unsedated 3.09 ± 0.34 cm², ABK 1.76 ± 0.8 cm², ABK 1.96 ± 0.7 cm², P < 0.05). Ventricular wall thickness and systolic function were used to assess cardiac function. All sedated cats showed an increase in diastolic and left ventricular end-diastolic and left ventricular contractility, and increased naturalization time.

These results suggest that sedation with the protocol used in this study may be useful for facilitating electrocardiogram echocardiographic measurements in healthy cats. Further studies would be needed to confirm these results in cats with cardiac diseases.


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