

PERITONEOPERICARDIAL DIAPHRAGMATIC HERNIA (PPDH) AND CARDIAC DEFECTS IN MAINE COON CATS.

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PPDH is the most common congenital pericardial anomaly reported in dogs and cats. This anomaly consists of a persistent communication between the pericardial and peritoneal cavity allowing abdominal contents to enter the pericardial cavity. Previous studies of PPDH have reported that either no breed predilection for PPDH exists or that PPDH is more prevalent in Persian cats. In a recent study, domestic longhaired cats and Himalayans were significantly overrepresented, whereas domestic shorthaired cats were underrepresented. In dogs PPDH has been reported in littermates and Weimaraners are suggested to be predisposed. No report of its occurrence in Maine Coon cats could be found in the reviewed literature.

Additionally PPDH has been associated with congenital anomalies like skeletal and sternal defects and polycystic kidneys (Persian cat). No association with cardiac defects has previously been described.

This report describes the occurrence of PPDH and cardiac defects in 4 Maine Coon cats (3 females and 1 male). Only two cats were related (mother-daughter). The animals were presented for the investigation of a heart murmur detected during routine examination for vaccination (2/4) or for hypertrophic cardiomyopathy (HCM) screening. When diagnosis of PPDH was made, none of the cats presented associated clinical signs. On physical examination none of the cats presented muffled heart sounds or other clinical signs compatible with a PPDH. Cardiac auscultation revealed a right sternal systolic murmur (grade IV/VI) in 2 of 4 cats, later confirmed to be secondary to tricuspid regurgitation in one cat and to a L-R ventricular septal defect (VSD) in another one. Thoracic radiographs revealed a soft tissue density overlying the cardiac apex and diaphragm in 3 of 3 cats in which radiographs were taken. Echocardiography showed hepatic tissue within the pericardial space adjacent to the apical myocardium in all 4 cats. However 2 of the 4 cats had had previous echocardiographic examinations done with no mentioning of the presence of PPDH. Additionally, echocardiography showed that one cat had a restrictive VSD, one had tricuspid dysplasia with moderate RA enlargement and one screened positive for HCM (also confirmed by a positive DNA test: heterozygous for MyBPC3 mutation). In conclusion, Maine Coon cats might be predisposed to PPDH and it is often associated with other congenital or acquired cardiac defects. Echocardiography appears to be a useful technique for diagnosing PPDH but it can easily be overlooked during routine HCM screening if the echocardiographer is not aware of its existence.