EXPLORING HOLTER MONITORING IN CATS WITH HCM

PROJECT STUDY: Holter monitoring in cats with hypertrophic cardiomyopathy in the home environment and assessment of daily arrhythmic spontaneous variability

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Hypertrophic cardiomyopathy (HCM) is a very common heart disease of cats causing their heart muscle to become thicker than normal. This disease also occurs in people and is the most common cause of sudden death in young adults. The cause of sudden death in people is thought to be due to a variety of cardiac arrhythmias, particularly those that arise from the thickened heart muscle. A substantial percentage of cats with HCM die suddenly, but the cause of sudden death has not been investigated. Seven of the planned 20 cats with HCM have been enrolled and successfully completed the at home ECG recording for 3 days, which has never been performed in cats previously.

Initial findings show that cats tolerate wearing the at home ECG recording device very well and substantial differences exist between cats and between days in regards to the number and severity of arrhythmias. The range of premature heartbeats ranged from 0 to over 2000 in a 24-hour period. The day-to-day variability in the number of premature heartbeats ranged from 6.5% to 100%. Five out of the seven cats with HCM (71%) had a degree of arrhythmia severity indicative of an increased risk of sudden cardiac death, which is higher than previously suspected based on the minimal information that is known about arrhythmias in cats with HCM. Completion of this project will increase our understanding of arrhythmias in cats and potentially reduce the rate of sudden death in the future.

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