

Holter Monitoring in Cats

Holtering monitoring in cats.... yes it can be done and may be the critical component of a diagnostic evaluation. Granted, patient (and client) selection is key to a successful Holter recording, but it is possible. Meet “Lucky” (I know, right, but he actually was lucky). Lucky is a 14 year old, male neutered DLH cat. Lucky’s Holter save his life (well, the pacemaker did, but the Holter results got him there).

History:

- Presented for the concern of falling over numerous times. Owner reports that he falls over, lays on his side for a split second, and then is up again as if nothing has happened.
- He was treated for hyperthyroidism with I 131 eight months prior to this visit.
- Diagnosed with “cardiomyopathy” via echocardiogram at time of I 131 tx elsewhere
- No current medications

Physical Exam:

- Bright, alert responsive
- Heart rate: 160 bpm, Rhythm: normal sinus
- Pulse Quality: strong, synchronous
- MM: pink, CRT < 2 seconds
- Murmur: none

Echocardiogram (pertinent findings):

- Left atrial enlargement
- Left ventricular wall hypertrophy: variable thickness
- Variable echogenicity to left ventricular walls

6 Lead ECG - 5 minute recording - unremarkable

- Average heart rate: 180 bpm
- Rhythm: normal sinus

NOW CHECK THIS OUT!

Holter (24 hour recording):

- minimum heart rate: 69 bpm, max heart rate: 238 bpm, average 156 bpm
- total # of beats/24 hours: 217,461
- total # of ventricular in origin beats 2,899 (1.3%): couplets, triplets, bigeminy, trigeminy
- Rhythm was sinus with periods of second degree AV block and 17 episodes of **ventricular standstill, longest being 16.71 seconds in duration.**



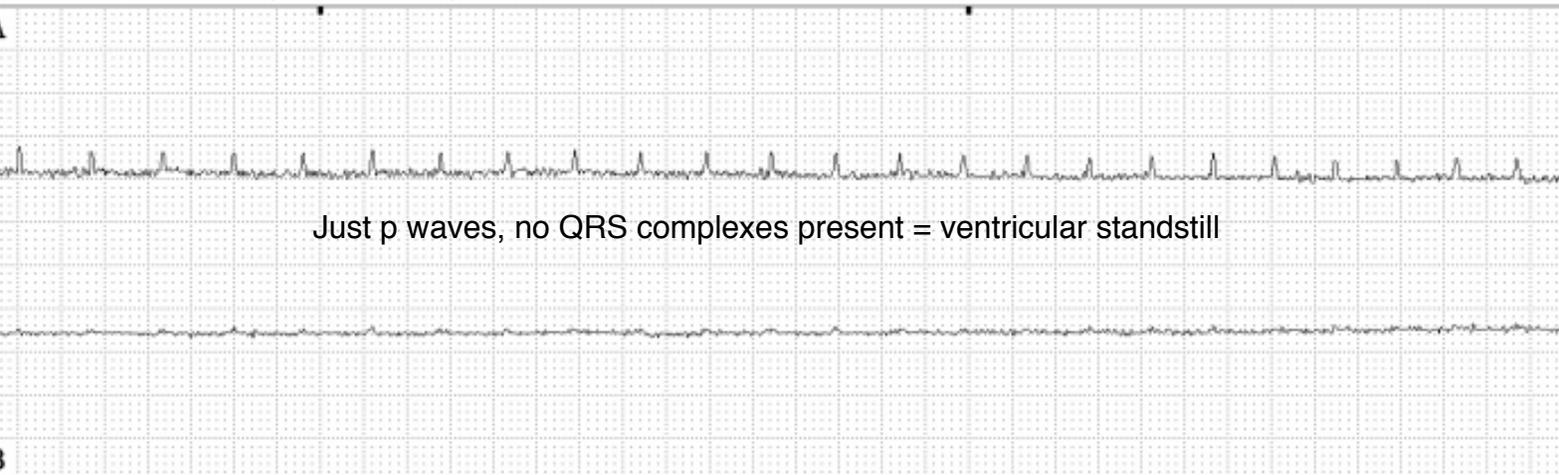
Not actually “Lucky”, but this patient has a Holter monitor tucked under his Holter vest.

ECG 11 10:04:21 PM # Ventricular Standstill

HR: 147



ECG 11 (continued)



ASSESSMENT: The top 2 strips were recorded simultaneously as well as the 3rd and 4th. The first 9 complexes are sinus in origin, the 10th is a ventricular premature complex and the rest... well the rest are just p waves. The ventricles stopped beating for 16.71 seconds. GASP! Lucky was referred to the U of MN (on a Sunday) for an urgent pacemaker implantation. At last report, he was doing well.

This is a great case for a number of reasons. First, arrhythmias can be intermittent and not always detected in hospital (not present at time of physical exam or ECG). Second, Holters can be essential in capturing and characterizing arrhythmias. Third, Holters are possible in some cats (appropriate patient and client selection is key). Forth, collaboration between veterinary facilities can allow for comprehensive, life saving care for our patients. Fifth, sometimes pets named "Lucky" can be lucky.