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Characteristic	All cats	Cats that experienced an event related to HCM	Cats that remained healthy or experienced signs related to other disease	P-value for comparison
Number	47 (unless otherwise specified)	15 (unless otherwise specified)	32 (unless otherwise specified)	
Sex (Male)[%]	35 [74%]	12 [80%]	23 [71.9%]	0.73
Age (years)	4.0 (1.0 – 12.0)	6.0 (1.0 – 12.0)	4.0 (1.0 – 12.0)	0.65
Breed (pedigree/not) [% pedigree]	7/40 [14.8%]	2/13 [13.3%]	5/27 [15.6%]	> 0.99
Body Weight (Kg)	4.4 (3.1 – 9.2) N = 45	4.3 (3.1 – 8.2) N=14	4.7 (3.5 – 9.2) N=31	0.19
Heart rate	200 (130 - 250)	180 (130 - 240)	200 (140 - 250)	0.19
Murmur intensity Grade 2/3/4 (out of six) number (percentage)	3/21/23 (6%/45%/49%)	0/6/9 (0%/40%/60%)	3/15/14 (9%/47%/44%)	0.26
Systolic blood pressure (mmHg)	128 (80-180) N = 42	120 (95 - 160) N=13	130 (80 - 180) N = 29	0.50
Creatinine (µmol/L)	137 (82 – 213)	137.0 (103.9 – 193.8)	137.25 (82 - 213)	0.64
BUN (mg/dL)	10.0 (5.7 - 16.7)	11 (6.9 – 16.7)	9.85 (5.7 – 13.6)	0.33
NTproBNP (pmol/L)	515 (24 – 1500)	851 (138 - 1500)	321 (24 - 1500)	***0.001***

	N =46	N =14		
cTnI (ng/mL)	0.23 (0.01 – 23.7) N =46	0.38 (0.04 – 0.82) N =14	0.22 (0.01 – 23.7)	0.53
Maximum left ventricular wall thickness in diastole (mm)	7.0 (6.0 – 11.8)	8.0 (6.0 – 11.8)	7.0 (6.0 – 9.5)	0.076
LA:Ao ratio	1.33 (0.97 – 2.19)	1.59 (1.08 – 2.19)	1.28 (0.97 – 1.73)	***< 0.001***
Maximum aortic velocity (m/s)	3.0 (1.1 – 6.6)	3.0 (1.1 – 6.6)	3.1 (1.1 – 6.6)	0.57
LA long axis (mm)	15.8 (11.0 – 22.8)	19.0 (13.4 – 22.8)	15.5 (11.0 – 18.3)	***0.025***
Respiratory rate	40 (24 – 90) N = 20	45 (28 – 80) N = 6	34 (24 – 90) N = 14	0.49
Received atenolol at anytime (yes) [%]	15 [32%]	8 [53%]	7 [22%]	***0.046***

Table 1. Baseline characteristics of cats recruited to the study. Continuous and ordinal data are reported as median and range. Nominal data are reported as number and proportions. Abbreviations: BUN, blood urea nitrogen; NTproBNP, N-terminal pro B-type natriuretic peptide; cTnI, cardiac Troponin I; LA:Ao, left atrium to aortic ratio; LA, left atrium.

	NTproBNP concentration	LA:Ao	LA Long
AUC for ROC curve [95% confidence intervals]	0.821 [0.689 - 0.954]	0.852 [0.721 - 0.983]	0.704 [0.522 - 0.877]
P-value	0.001	< 0.001	0.025
Proposed cut off value	700 pmol/L	1.5	
Sensitivity [95% confidence intervals]	0.786 [0.524 to 0.924]	0.733 [0.48 to 0.891]	
Specificity [95% confidence intervals]	0.813 [0.647 to 0.911]	0.813 [0.647 to 0.911]	
Positive likelihood ratio [95% confidence intervals]	4.203 [1.938 to 9.063]	3.92 [1.787 to 8.559]	
Negative likelihood ratio [95% confidence intervals]	0.263 [0.095 to 0.729]	0.328 [0.14 to 0.772]	

Table 2 – The area under the receiver operator characteristic (ROC) curves and their 95% confidence intervals for the ability of the listed variables to discriminate cats that will go on to experience an event from those that will not. AUC: area under the curve, ROC: Receiver operator characteristic, LA: left atrium, LA:Ao: left atrium to aortic ratio, NTproBNP: N terminal B-type Natriuretic peptide.

Risk indicator		LA:Ao	
		< 1.5	≥ 1.5
NTproBNP concentration	< 700 pmol/l	22 cats **1**/21 (4.5%)	7 cats **2**/5 (28.6%)
	≥ 700 pmol/l	8 cats **3**/5 (37.5%)	9 cats **8**/1 (88.9%)

Table 3. The number of cats above and below the cut-off values for the two risk indicators identified. Data are presented for the 46 cats for which the values of both variables were known at baseline. The number of cats in each box is presented as the total number, followed by the number of cats that experienced an event in bold/the number of cats that did not experience an event (percentage of cats that experienced an event).

	Number of risk indicators above the proposed cut-off		
	None	One	Two
Number (proportion) of cats not experiencing an event.	21 (95.5%)	10 (66.7%)	1 (11.1%)
Number (proportion) of cats experiencing an event.	1 (4.5%)	5 (33.3%)	8 (88.9%)

Table 4. The number of cats (percentage) experiencing an event and not experiencing an event according to whether they had none, one or two of the identified risk indicators above the proposed cut off.

	Change between baseline and first revisit					
	Absolute change			Percentage change		
	Cats that experienced an event	Cats that did not experience an event	P value	Cats that experienced an event	Cats that did not experience an event	P value
N =	11 Unless otherwise stated	30 Unless otherwise stated		11 Unless otherwise stated	30 Unless otherwise stated	
LA:Ao	0.045 (-0.24 to 0.91) N = 10	0.05 (-0.18 to 0.55)	0.842	2.20 (-15.1 to 56.5) N = 10	4.03 (-13.4 to 49.11)	0.701
NTproBNP (pmol/L)	24 (-503 to 836) N = 10	157 (-1278 to 822) N = 29	0.601	2.66 (-33.5 to 125.9) N = 10	48.7 (-85.2 to 324.1) N = 29	0.418
LA Long (mm)	0.34 (-2.62 to 6.25) N = 10	-0.07 (-1.89 to 1.36)	0.379	2.56 (-13.3 to 34.5) N = 10	-0.47 (-14.3 to 9.66)	0.315

Tables 5a The absolute and percentage change in left atrium to aorta ratio, NTproBNP concentration and left atrial long axis measurement compared between cats that went on to experience an event and those that did not at the first revisit. Due to missing data for at least one visit, values for absolute

and percentage change in left atrium to aortic ratio and left atrial long axis measurement were only available for 10 cats in the event group. Due to missing data for at least one visit, values for absolute and percentage change in NTproBNP concentrations were only available for 10 cats in the event group and 29 cats in the group that did not experience events. Abbreviations; LA:Ao, left atrium to aorta ratio; LA Long, left atrium long axis measurement; NTproBNP, N-terminal pro B-type natriuretic peptide.

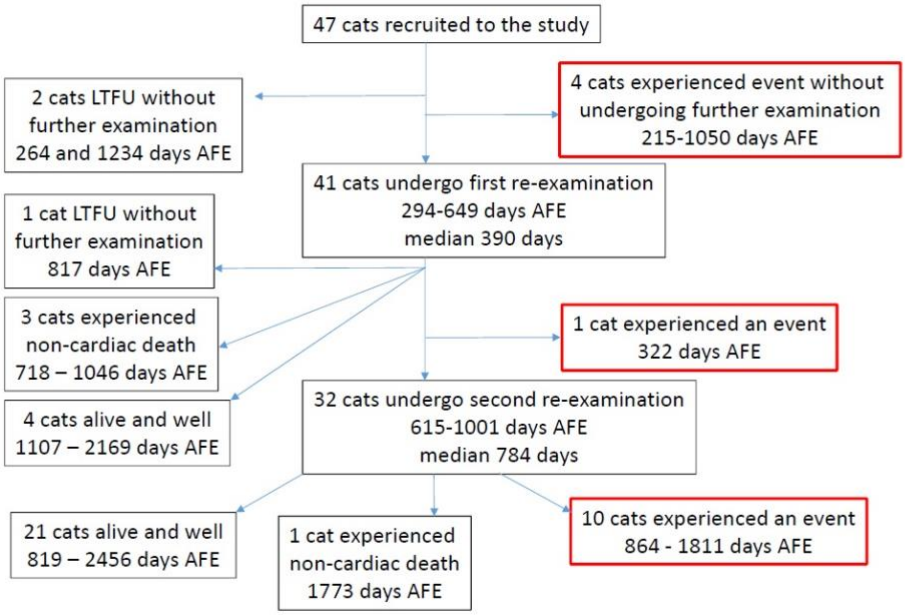
	Change between first revisit and second revisit					
	Absolute change			Percentage change		
	Cats that experienced an event	Cats that did not experience an event	P value	Cats that experienced an event	Cats that did not experience an event	P value
N =	10 Unless otherwise stated	22 Unless otherwise stated		10 Unless otherwise stated	22 Unless otherwise stated	
LA:Ao	0.30 (-0.07 to 0.90) N = 9	0.03 (-0.35 to 0.28) N = 21	***< 0.001***	22.1 (-4.83 to 76.3) N = 9	2.03 (-20.2 to 26.2) N = 21	***0.003***
NTproBNP	-42 (-400 to 551)	95 (-229 to 1148)	***0.031***	-3.6 (-40.3 to 58.1)	13.8 (-83.3 to 326.14)	0.10
LA Long (mm)	0.03 (-3.0 to 2.92) N = 9	2.35 (-3.0 to 9.15) N = 21	0.063	9.12 (-15.0 to 49.3) N = 9	-0.19 (-17.7 to 26.2) N = 21	0.056

Table 5b The absolute and percentage change in left atrium to aorta ratio, NTproBNP concentration and left atrial long axis measurement compared between cats that went on to experience an event and those that did not between the first revisit and the second revisit. Due to missing data for at least

one visit, values for absolute and percentage change in left atrium to aortic ratio and left atrial long axis measurement were only available for 9 cats in the event group and 21 cats in the group that did not experience events. Abbreviations; LA:Ao, left atrium to aorta ratio; LA Long, left atrium long axis measurement; NTproBNP, N-terminal pro B-type natriuretic peptide.

Variable	AUC for ROC curve	95% confidence intervals for AUC	P- value	Proposed cut off value	Sensitivity of proposed cut off (95% CI)	Specificity of proposed cut off (95% CI)
LA:Ao absolute change	0.902	0.751 – 1.0	< 0.001	0.12	0.889 (0.565 to 0.98)	0.905 (0.711 to 0.973)
LA:Ao percentage change	0.836	0.665 – 1.0	< 0.001	8.04 %	0.778 (0.453 to 0.937)	0.81 (0.6 to 0.923)

Table 6 – The area under the receiver operator characteristic (ROC) curves and their 95% confidence intervals for the ability of the absolute change in LA:Ao and percentage change in LA:Ao between the first and second revisits to discriminate cats that go on to experience an event from those that do not. AUC: area under the curve, ROC: Receiver operator characteristic, LA:Ao: left atrium to aortic ratio.



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55 Figure 1: A flow diagram indicating the outcome and time to outcome for the 47 cats recruited to
56 the study. Abbreviations: AFE, after first examination; LTFU, lost to follow up.

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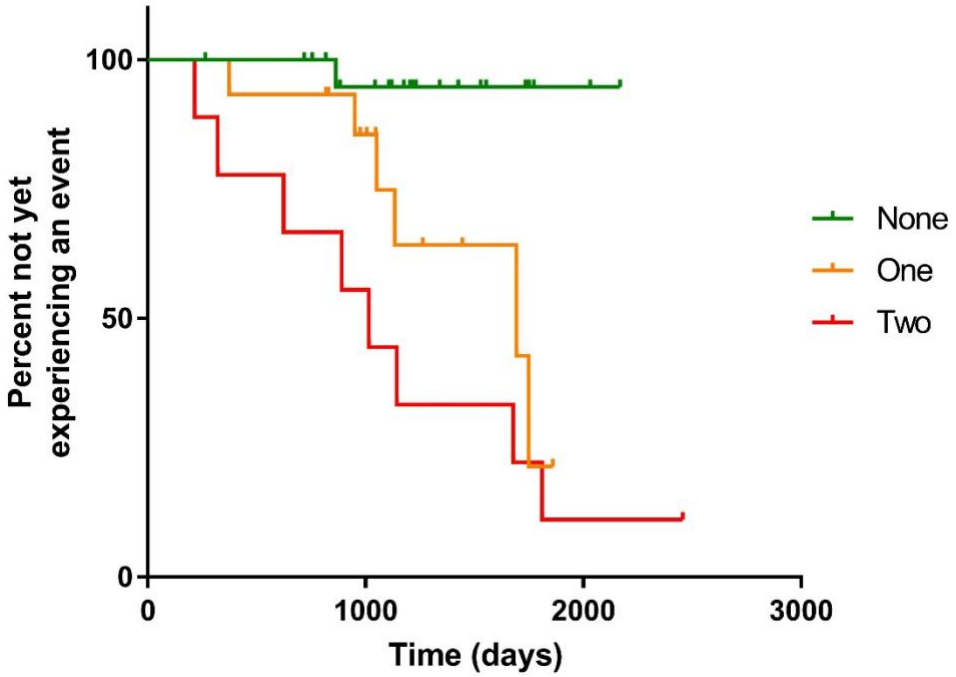

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60 Figure 2. – A Kaplan Meier plot indicating the proportion of cats that had not yet experienced an
61 event against time according to whether they had none, one or two of the identified risk indicators
62 above the proposed cut-off values.

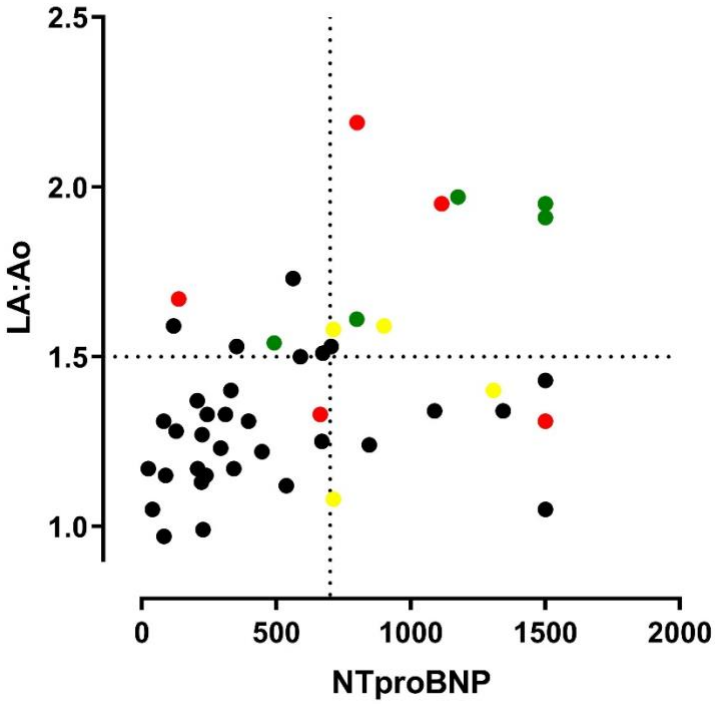

Figure 3: Caption : Figure 3. A dot-plot showing the baseline values of NTproBNP concentration and LA:Ao for all cats in the study for which both measurements were available. Cats indicated by coloured dots went on to experience an event, cats indicated by black dots did not experience an event in the period of follow up. Cats indicated by a blue dot developed congestive heart failure. Cats indicated by a red dot experienced sudden death. Cats indicated by a yellow dot experienced thromboembolism.