

PATIENT DISCHARGE SUMMARY

OSU Case Number: 000485496

Client: Teresa Sweeney

Patient: Highland Belle

Referring Veterinarian: Tod Beckett Fax: (614) 529-2217

Date Admitted: 12/3/2018 **Date Discharged:** 12/3/2018

Patient Status: Released

Clinician: John Bonagura DVM, DACVIM

Columbus Small Animal 614-292-3551

Dublin Small Animal 614-889-8070

Pharmacy 614-292-1010

Business Office 614-292-1360

Fax 614-292-1454

www.vet.osu.edu/vmc

Final Diagnosis: Normal feline cardiac examination - Normal cardiac auscultation

No evidence of congenital or acquired heart disease

Echocardiogram: Normal (no evidence of cardiomyopathy)

History and Clinical Problems:

Belle is a 1 year old intact female Maine Coon cat who was examined today at the OSU-Veterinary Medical Center **Cardiology Service** for a screening evaluation for congenital heart disease and for hypertrophic cardiomyopathy. No heart murmur has been reported up to this point. She has not had any coughing or difficulty breathing at home. Belle maintains a normal activity level with no evidence of sneezing, vomiting, or diarrhea. Belle is fed Fancy feast, raw beef, and solid gold chicken and egg dry food. She is currently up to date on her vaccines and is not on any medications.

Diagnostic Procedures and Physical Findings:

Physical Examination (note: WNL = within limits of normal)

Body Weight: 4.3 kilograms, 9.46 pounds **Body condition** (score): 4/9 **Attitude:** Bright, alert, responsive

Hydration: normal

Vital signs: Temperature: not obtained Pulse/Heart rate/minute: 200 bpm Respiratory rate/minute: sniffing, nervous

Mucous membranes not obtained

Examination was focused on cardiac evaluation.

Physical examination of the heart and cardiovascular system was normal.

Heart rate, heart rhythm, femoral pulses, and precordial impulses were normal.

Heart sounds were normal; no gallop sounds were detected.

Cardiac murmurs were not detected during careful auscultation of the heart.

Diagnostic Tests

Echocardiography (two-dimensional and M-mode ultrasound imaging of the heart) to screen for (hypertrophic) cardiomyopathy. Note that Doppler Flow Imaging (color & spectral Doppler examinations) is not routinely performed in cats without a murmur but was evaluated to support other imaging findings:

2D and M-mode imaging identified heart chambers of normal size with normal systolic function of the ventricles.

No congenital malformations of the heart were identified. No overt valvular lesions were identified.

There was no subjective or objective (measurement) evidence of hypertrophic cardiomyopathy.

Physiological tricuspid regurgitation, brief in duration, was evident by color flow mapping.

- ECG: normal sinus rhythm, average heart was about 180 bpm

Recommendations and Instructions:

Medications: As there is no evidence of heart disease, no medications have been prescribed at this time.

Activity: Belle can continue her normal activities.

Diet: There are no dietary restrictions based on today's heart evaluation.

Prognosis:

The current **prognosis for heart health is very good**. This screening examination did not reveal any evidence of

PATIENT DISCHARGE SUMMARY

OSU Case Number: 000485496

Client: Teresa Sweeney

Patient: Highland Belle

Referring Veterinarian: Tod Beckett Fax: (614) 529-2217

Date Admitted: 12/3/2018 **Date Discharged:** 12/3/2018

Patient Status: Released

Clinician: John Bonagura DVM, DACVIM

Columbus Small Animal 614-292-3551

Dublin Small Animal 614-889-8070

Pharmacy 614-292-1010

Business Office 614-292-1360

Fax 614-292-1454

www.vet.osu.edu/vmc

congenital heart disease (birth defects) or acquired heart disease (such as hypertrophic cardiomyopathy, HCM). It should be appreciated that cardiomyopathies are classified as adult-onset, genetic heart diseases. These can develop later in life and for this reason the examination findings should be interpreted as "normal for this time frame".

Cats used for recurrent breeding should be re-evaluated at regular intervals (e.g., yearly) since HCM can develop later in life, even after a normal screening examination.

There are limited genetic tests available for identifying carriers and affected cats with HCM and these are only available for certain breeds (currently limited to the Maine coon cat and Ragdoll breeds). Please discuss with the cardiologist any questions you have about genetic testing in cats. When appropriate, we can refer you to laboratories that offer this service directly to breeders and cat owners. Currently, we recommend the genetic screening services available at North Carolina State University College of Veterinary Medicine. See: <https://cvm.ncsu.edu/genetics/submit-dna-testing/>

Even when a genetic test is available for a particular breed, that laboratory test is not sufficient as a single screening method. Cats with HCM can carry other genetic mutations that are not identified by available laboratory testing. As a result, the stethoscope (for auscultation) and ultrasound examinations of the heart (echocardiography) have been the most important methods for screening cats for obvious heart diseases such as HCM. It should be understood that minor or trivial heart (birth) defects might not be identified conclusively by cardiac ultrasound, and the echocardiographic criteria used for diagnosis of HCM in cats are not "black and white". In fact the measurement values used in different parts of the world for the diagnosis are different! As a result of this uncertainty, we emphasize to our clients that the echocardiogram is a good method for detecting moderate to severe HCM, but there are some cats where the ultrasound examination is "borderline". In these cases, a discussion should be undertaken with the cardiologist and breeders should review all of the other characteristics of that cat and plan follow up examinations. Additionally, genetic tests should be evaluated if available. The NT-proBNP test is another "biomarker" that can be performed at through family veterinarian's office (using IDEXX laboratories). Unfortunately, this test is most useful in cats with heart murmurs and more likely to be positive when there is moderate to severe heart disease. Like the echocardiogram, "borderline" cases of HCM will be more challenging to identify with certainty.

Next Appointment:

If breeding is continued a reevaluation echocardiogram should be scheduled in approximately one year. You can discuss this with the cardiologist if you have any questions. Thank you for bring Belle to Ohio State Veterinary Medical Center Cardiology today. Please do not hesitate to contact us should you have any further questions.

Thank you. We appreciate your patronage. Your support of our programs is important. Please do not hesitate to contact us if you have any questions about our evaluation or instructions.

Catherine Zellmer

John Bonagura, DVM, DACVIM