

Report to Great Dane Club of America Charitable Trust
on
Grant to GDCA Central Division for Cardiac Echo Screening Clinic
by
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Introduction

This report summarizes the procedures, results and expenditures of the cardiac echo screening clinic conducted at the GDCA's 2008 National Specialty Show in Louisville, KY. The GDCA Charitable Trust had approved a grant of \$6,500.00 to cover approximately 50% of the expenses of the clinic. The grant substantially reduced the cost of the clinic, permitting owners to be charged \$75.00 per dog screened.

Fifty-six Great Danes received cardiac evaluations, including auscultation and echocardiography, during the clinic held on October 16 & 17, 2008. Dr. William Tyrrell, Jr., DVM, DACVIM (Board Certified Veterinary Cardiologist) performed all cardiac evaluations. Several previously undiagnosed cardiac conditions were identified and referred for appropriate follow-up. Actual expenses were very close to the pre-event budget. The clinic met all objectives.

Recruitment and Scheduling Procedures

Advertisements and pre-registration forms for the cardiac echo clinic were placed in the Premium List for the 2008 GDCA National Specialty, on the GDCA website and on Great Dane internet chatlists, including ShowDanes and MyMentors. The pre-registration form collected demographic and medical history of the dog (age, gender, reproductive status, history of previous cardiac echo/OFA and family history of heart disease) as well as preferred appointment date and owner contact information. Dog name was intentionally NOT requested, so individual participants remained anonymous. The pre-registration form advised owners that only one dog per household would be given an appointment unless openings became available due to cancellations, etc.

A total of 70 pre-registration forms were received. All owners were contacted and informed they would be given an appointment time after the judging program became available. The scheduler used the dog's age and gender information on the pre-registration form to assign appointment times to minimize conflicts with judging. Sixty of the 70 owners confirmed their appointment and were placed on the clinic schedule. An OFA Application for Congenital Cardiac Database, pre-filled with the veterinary and echo clinic information, was sent to the owner along with the confirmation of appointment. Owners were asked to bring this form to their appointment. Owners were encouraged to submit their echo results to OFA, but this was not required. As a further incentive, the echo clinic applied for and received a special event discount which reduced the OFA fee to \$7.50 for clinic participants instead of the usual \$15.00 fee.

Although some conflicts arose during the show, nearly all dogs wishing to participate were worked into the schedule. Due to an unanticipated need to vacate the exam room at 4:00 p.m. on October 17th, the actual number of appointments available was 56 instead of 65 as in the grant budget.

Over the two day clinic, there were a few "no-shows". These appointments were filled by having the ring announcer ask anyone interested to phone the clinic for an immediate appointment. All 56 available appointments during the two-day clinic were filled.

Clinic Administration

Clinic volunteers were instructed on confidentiality procedures (i.e., not to discuss the identity of the dogs who participated or to reveal anything they might have seen or heard pertaining to

individual dogs, not to leave the OFA forms where they might be seen, etc.) prior to working in the clinic.

Dogs' names did not appear on the pre-registration form, only the age and demographic information listed above. All echo exams were performed in a private room separate from the reception area. Clinic participants could not see or hear Dr. Tyrell's conversation with the owner(s). GDCA clinic staff did not enter the exam room during exams.

At check-in, clinic staff confirmed that each dog was positively identified. This was done by scanning the microchip or inspecting the tattoo to insure the number recorded on the OFA form matched the dog*. Owners held onto their OFA form and took it into the exam room where Dr. Tyrrell filled out his portion of the form at the conclusion of the echo exam. OFA forms turned in by owners at the clinic were immediately placed in a confidential envelope until they were mailed to OFA. Owners were told they need not turn in their OFA forms at the clinic. Thirty-nine Great Danes turned in their OFA Congenital Cardiac Database Application at the clinic. Others may have mailed the form privately, or not at all.

*Four dogs who arrived at the clinic without positive ID were microchipped at the clinic at no charge.

Echocardiography Procedures

Each dog was examined in a quiet, darkened private room to allow dogs to relax. Echocardiography was preceded by a brief physical exam focusing on the cardiovascular system. This exam included measurement of heart rate, pulses and auscultation of lungs and heart.

Echocardiography was performed on all 56 dogs in a standing position using a GE Vivid I echocardiography unit. All patients were awake and non-sedated. No patients were shaved for the study. All standard (American Society of Echocardiography) views from both right parasternal and left apical imaging planes were obtained via an annular phased array 3S probe. Both color and pulsed/continuous wave Doppler studies were performed on all heart valves. Standard M-mode and two dimensional measurements were also obtained and detailed within the patient's report given to the owner.

Owners received both verbal results and a written cardiac echo report at the conclusion of the exam. The report contained all M-mode, two dimensional and Doppler measurements. Recommendations regarding breeding status (as pertaining to the heart), recheck echocardiography, follow-up with family veterinarian, etc. were also detailed within the report along with physical exam and echocardiography findings.

Demographics of Participants

Of the 56 Great Danes examined during the echo clinic, 33 were males and 23 were females. The average age of male participants was 2.3 years. The average age of females was somewhat older, 2.6 years. However this was influenced by a single outlier, a nine year old female. If not for her, the average age of female participants was 2.3 years, equivalent to that of the males. All colors of Great Danes were represented. Further details on demographics will not be presented in order to prevent unintentional disclosure of specific dogs who participated in the echo clinic.

Echocardiographic Findings

| 2008 Great Dane Club of America Echo Screening Clinic | | | | |
|--|-------------------|---------------------|----------------------------|-----------------------|
| Echocardiographic Result | # of Males | # of Females | Total this Category | Percent (N=56) |
| <u>Normal</u> echocardiogram | 19 | 17 | 36 | 64.3 |
| <u>Abnormal</u> echocardiogram | 14 | 6 | 20 | 35.7 |
| Tricuspid valve dysplasia | 3 | 0 | 3 | 5.4 |
| Arrhythmias present during examination/echo | 2 | 0 | 2 | 3.6 |
| Chronic degenerative valvular disease | 2 | 1 | 3 | 5.4 |
| Dilated cardiomyopathy | 0 | 1 | 1 | 1.8 |
| Mitral valve dysplasia | 0 | 1 | 1 | 1.8 |
| Mild increase in left ventricular internal dimensions | 1 | 1 | 2 | 3.6 |
| Equivocal for aortic stenosis | 2 | 1 | 3 | 5.4 |
| Equivocal for subaortic stenosis | 2 | 1 | 3 | 5.4 |
| Equivocal for tricuspid valve dysplasia | 1 | 0 | 1 | 1.8 |
| Equivocal for both tricuspid and mitral valve dysplasia | 1 | 0 | 1 | 1.8 |
| Total Great Danes tested | 33 | 23 | 56 | 100 |

As expected, males showed a higher prevalence of abnormal echo: 42.4% (14/33) vs. 26.1% (6/23) for females. Overall, 35.7% (20/56) of Great Danes screened had a cardiac abnormality detected via echo. Based on responses to the question about known cardiac disease or family history on the pre-registration form, we can conclude that the vast majority of these abnormalities were new diagnoses. This underscores the value of the cardiac echo clinic at the 2008 GDCA National Specialty.

Expenses

Total expenses of the echo clinic were \$9,533.04, not including \$4,200.00 in income received as fees (56 echos @ \$75.00 each). The total cost of the clinic was \$5,333.04. The OFA fee was collected separately and sent with each application, so it did not affect the budget.

Conclusions and Recommendations

As one can see from the results table, this clinic that was set up primarily to screen for dilated cardiomyopathy actually diagnosed more congenital heart defects than heart disease. This result is likely based on the skewed age of the population of dogs examined. In the future, it will be prudent to further educate our breed club on the necessity to screen young, middle aged and older dogs via echocardiography. It is likely that more dilated cardiomyopathy, in its early stages, may have been diagnosed if we had examined an older/mature population. It is well proven that early intervention in this horrible heart disease can have excellent results, improving both the dog's quality and quantity of life.

Future echocardiography clinics should consider offering incentives to encourage greater participation of older Great Danes, intact males who represent current or future frequently used sires and others with established risk factors for heart disease.