

# The More We Learn The Less We Know

## A Progress Report To The ABC Membership

May 7, 2001

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Due to a scheduling conflict that demanded her early return to OSU, Dr. Meurs was able to give only a brief report to a small room of interested people during judging of the Futurity classes.

### The More We Learn The Less We Know

The theme of Dr. Meurs' talk was that although she has learned a great deal about Boxer Cardiomyopathy from her research and the work of other researchers, there is still no definitive proof that would enable her, or any other research scientist, to give us a "cutoff point" (numbers of VPCs) for removal of dogs from our breeding programs. Dr. Meurs said much more research was needed before we arrived at that point, and urged boxer breeders to Holter test our breeding stock yearly, choose a course of action that seems right for our own breeding programs, be honest and forthright with our fellow breeders, and most importantly, remain nonjudgmental about breeders who make different choices.

#### Which Tests Are Necessary?

Dr. Meurs began her talk by responding to a question about which heart tests she considered necessary. She said that she considered a one-time echocardiogram at over a year of age and a yearly Holter to be necessary for potential breeding dogs. She then posed the question of what is a normal Holter test. In a study of 51 non-boxers, the average number of VPCs per dog was two. The range was from 0 to 24 VPCs. For boxers, Dr. Meurs said it is probably not normal for a dog to have 100 VPCs in 24 hours. However, as noted above, she said she cannot yet recommend a cutoff point for removing a dog from a breeding program.

#### Grading BCM

For purposes of her study, Dr. Meurs and her associates have devised a grading scheme for Holter test results. A Holter test that results in only single (isolated) VPCs = Grade 1; the presence of couplets and triplets = Grade 2 or 3; the presence of runs of 4+ VPCs = Grade 4. Grades 1 and 2/3 have NOT been proven to be connected to sudden death.

#### Pathology And Inheritance

Dr. Meurs said that in necropsies of all boxers that had died of BCM, a fibrous, fatty tissue infiltration in the myocardium of the right ventricle was found. This is similar to what is seen in a human heart disease, and may be what

Dr. Meurs said that OSU used this grading scheme for the purposes of their research, but that no definitive research had been done that precisely correlated those blood velocities to the OSU grading system.

Dr. Meurs closed by stressing that we needed much more information before we could make firm recommendations about eliminating dogs from breeding programs, and again urged us to cooperate with our fellow breeders, make decisions only for our own breeding programs, and remain nonjudgmental about the decisions of other breeders.

causes the electrical conduction disorder in boxers. Dr. Meurs believes that BCM is definitely inherited in an autosomal dominant manner.

#### Medication

Dr. Meurs said that medication must lower the numbers of VPCs by 85% to be considered effective.

#### What Have We Learned?

1. That cardiomyopathy is primarily an electrical disease in the boxer.
2. Therefore, the disease should be called "Boxer Arrhythmic Cardiomyopathy."
3. Most affected boxers have normal

echocardiograms.

4. Many affected dogs have NO symptoms.

#### How Many Non-symptomatic Boxers In The Study Had VPC's?

Of the 188 mature boxers in Dr. Meurs' study, 157 had no clinical signs of BCM, while 31 had fainting spells (syncope). Of the 157 dogs WITHOUT clinical signs (symptoms) of BCM:

- More than 80% had at least one VPC/24 hours.
- 50% had greater than 10.
- More than 30% had greater than 50.
- More than 30% had greater than 100.
- More than 20% had greater than 500.
- Only a tiny percentage of dogs without symptoms had greater than 3000.

#### Aortic/Subaortic Stenosis (AS/SAS)

Dr. Meurs explained the OSU grading scheme for AS/SAS:

- Blood velocity of 1.7 m/s and lower = Normal.
- 1.7 to 2.0 m/s = Equivocal.
- 2.0 to 3.0 m/s = Mildly Affected.
- 4.0 and above = Severely Affected.