How should you manage your heart cases in practice?

Treatment of symptomatic patients can be a challenge but the options are usually clear and a lot of advice is available. See the HeartVets website for our current advice.

Management of asymptomatic patients is more of a challenge.

- Should they be treated or not?
- How many animals with heart disease do we miss?
- How do we best identify the patients that warrant further investigation?
- What can we do to help these patients?

The advice here is based on what we currently know – there are ongoing studies that will in due course change this advice. And it's based on what we think is practical for vets in first opinion practice. Clearly cost is an issue and we appreciate that we need to be pragmatic, but still offer an owner what we think is best.

The situation is more prescient because of the advent of reliable biomarker measurements. For this we can think of a raised proBNP as meaning that there could be significant cardiomegaly. And a raised troponin is a general indicator of increased risk of heart disease. Tropinin I is relatively stable. To measure proBNP it is important that you follow your lab's advice to the letter. A snap test is now available for measuring proBNP in cats but not in dogs.

The most common situations where we worry about asymptomatic disease are:

- Cats with murmur, gallop sounds, arrhythmias or known risk factors
- Dogs which are of a breed and age in which pre-clinical (occult) DCM is a significant risk
- Dogs with degenerative mitral valve disease (DMVD) which is currently asymptomatic
- Puppies with murmurs

So – our advice is:

Cats – a recent game changer is the **proBNP snap test**. If the test is negative it is very unlikely to have heart disease. This makes the test a good screening tool, we are narrowing down the group of cats most at risk and doing the more expensive and much more specific test of echo in those most at risk.

Cats with murmurs are at risk of having heart disease but only around 50% of cases do. A pragmatic approach is to run a proBNP snap test, if it is positive the cat needs an echo. If negative repeat in 6 months then yearly intervals.

Cats with gallop sounds are sufficiently at risk of having heart disease (90% of cases do) so best save the cost of the proBNP snap test and go straight to echo.

Cats with arrhythmias fall part way between the two situations above. Ideally do an echo, if there are financial pressures a proBNP.

Cats with known risk factors such as breed (Bengal, Sphynx, Maine Coone, related cats with known disease or sudden death). A pragmatic approach is to run a proBNP snap test, if it is positive the cat needs an echo. If negative repeat in 6 month's then yearly intervals.

Cats about to have a long GA: probably the most common reason to see a cat go into acute congestive failure after a veterinary intervention is in an older cat following a long GA for a dental (with IVFT). Some of the cats don't have a murmur, gallop or arrhythmia. They can still have heart disease. Running a proBNP snap test to my mind is a more useful pre-GA blood tests that a whole list of other more commonly done assays.

Canine DCM

The breeds that we are most concerned about are:

High risk breeds: Dobermans, IWH, Great Danes, Boxers, Leonburgers, Newfoundlands, Dogue de Bordeauxs, and any other giant breed dog

Our **second tier** of concern is those breeds that can get DCM but the prevalence is much less. Screening is still valid for these – it may be that the concern is greater because of owner worry, relatives affected, intermittent symptoms that are not explained etc. These would include Labradors, Weimeraners, Setters and Pointers, Spaniels, St Bernards and any other large breed dog

In these dogs a proBNP of > 900 warrants an echo except Dobermans where the figure of 550 is advised. Any dog that is positive needs an echo. Run the pro-BNP annually from the age of 5 or 3 in high risk families.

There is a case to also Holter Dobermans, Danes and Boxers and to Holter any DCM positive dog.

DMVD

The ACVIM guidelines are on a separate document and summarise the mixed views of a group of cardiologists based on information available in 2009. This will change over time but currently is the best EBM guide. Things are going to change shortly when the results of the EPIC trail are published. Watch out for what could be ground breaking news on a trial looking at the benefits or not) of pimobendan in pre-clinical DMVD in dogs with cardiomegaly.

Currently we can't yet rely on proBNP, although a low proBNP that is correctly run is likely to exclude significant cardiomegaly. One day this may be a good guide to the need for treatment or not. For ow it is something that you can look for a trend in, but the absolute value that goes along with cardiomegaly and onset of CHF isn't clear enough for me to give you a number. Idexx produce their own guide which is of some value but this area will get much more clear over coming years in my opinion.

As a general rule dogs with DMVD that require investigation in order to decide whether to treat have loud heart sounds, a gallop sound, a loss of sinus arrhythmia and a raised heart rate then they definitely warrant an echo.

My suggestion is that for any dog with a murmur of mitral regurgitation (left apex, throughout systole), likely to be due to DMVD:

- Echo once murmur is grade 3 or greater. Train owner in resp rate measurement
- Reassess every 6 months
- Start on pimo when fulfils criteria in ACVIM consensus statement ie currently treat at onset of congestive signs. Then reassess every 3 months

An increased respiratory rate is a sensitive indicator of the onset of congestive heart failure, but it isn't specific. For example I could occur with pulmonary disease or a disease like Angiostrongylus. But a raised respiratory rate and a big LA and LV volume overload usually means that there is CHF, radiographs are needed as the specific diagnostic test in this instance. Start frusemide, pimobendan, ACEi and spironolactone in that order. Run bloods at outset of treatment.

Repeat bloods every 3 months when review case. Echo only needed when suspect could be getting pulmonary hypertension – more specialist assessment with Doppler is required at this point (difficult to manage CHF, persistent raised heart rate or resp rate, syncope, ascites). Info sheets for owners are at http://www.heartvets.co.uk/#!owner-area/czr9

Puppies:

There is no such thing as a puppy murmur: we need to make a diagnosis. Flow/innocent murmurs are common and often variable, sometimes musical, nearly always grade 1—2, often loudest at the left base.

- If the owner may return the puppy to the breeder or want to breed needs an echo when first identified
- If grade 3 or louder or continuous needs an echo when first identified
- If owners love already and won't return and is quiet then can wait until 16 weeks and then reassess