Treatment considerations
Treatment of Dilated Cardiomyopathy

Dr Clarke Atkins
Treatment DCM

* Retrospective study
Placebo-controlled, double-blind studies of ACE-I in CHF

The harmful effects of chronic RAAS activation and benefits of ACE-Inhibition have been shown in multiple clinical trials in dogs with both CVD & DCM.
Furosemide in Heart Failure

CO
PCWP
AgII
PRA
Aldost

Image: Dr. C. Atkins
Loop Diuretics

Activate RAAS

Cause Hypotension & Azotemia

Reduce Cardiac Output

Hypokalemia & -magnesemia → Arrhythmia

Use at lowest dosage possible!
Pimobendan

- Pimobendan at 0.25 mg/kg bid
- DCM in Dobies and Cockers (n=10 each breed)
- Double-blind, placebo-controlled
- Both breeds: improved NYHA scores
- Improved survival in Dobies only (p<0.05)
  - Median Survival vs Placebo = 329 vs 50 days

Pimobendan:
DCM – Doberman Pinschers

N=16 dogs in Congestive Heart Failure, on Lasix and Benazepril
Placebo controlled, double-blind trial
LVSF <15%, Average = 9%
Median = 130 vs 14 days; P=.002

Fig.1.
**Digoxin**

- Purified foxglove; No proof of efficacy in dogs
- Inhibits the Na\(^+\), K\(^+\) - ATPase pump of myocytes
  - Weak positive inotropy via increased intracellular Ca\(^{2+}\)
- Normalizes baroreceptors
  - In heart failure, baroreceptor function is decreased
  - Digoxin re-sensitizes baroreceptors to arterial BP
  - Increased vagal tone and reduced sympathetic output
  - Arrhythmogenic
  - Narrow therapeutic window
**Dilated Cardiomyopathy - Summary**

- **Asymptomatic**
  - Educate
  - Avoid Salted Foods
  - ACE-I
  - Digoxin (A Fib)
  - Pimo ?
  - Spirono ?

- **Heart Failure**
  - Furos*
  - Pimo
  - Digoxin
  - ACE-I

- **Refractory Failure**
  - Furos Pimo
  - Spirono
  - O2
  - Sedation
  - Centesis

* Possibly Constant Rate Infusion