



Evaluation of treatment options for preclinical heart disease

- The detection of a murmur along with cardiac enlargement during the preclinical phase used to mean watching and waiting.
- Recent studies have analysed if treatment in the preclinical stage can delay the onset of clinical symptoms of congestive heart failure (CHF).

STUDY	OBJECTIVE	STUDY DESIGN	INTERIM ANALYSIS	RESULTS SUMMARY
EPIC STUDY¹	The EPIC (Evaluation of Pimobendan In dogs with Cardiomegaly) Study evaluated if long-term administration of VETMEDIN [®] to dogs with Stage B2 myxomatous mitral valve disease (MMVD) would delay onset of clinical signs of CHF, cardiac-related death, or euthanasia.	34 INDEPENDENT CARDIOLOGISTS 11 COUNTRIES 360 DOGS OVER 4-YEAR PERIOD DOUBLE-BLINDED PLACEBO-CONTROLLED 36 CENTRES	Evidence to stop study early YES	15 MONTH DELAY to the onset of heart failure 60% MORE TIME in asymptomatic Stage B2 of heart disease [†] 10% MORE LIFE without CHF signs that impact quality of life or cardiac-related death [†]
DELAY STUDY[*]	The DELAY Study evaluated the efficacy of spironolactone and benazepril in delaying onset of clinical signs in dogs with symptomatic mitral valve disease and cardiac enlargement (Stage B2).	FEWER CARDIOLOGISTS 184 DOGS OVER 8-YEAR PERIOD SINGLE-BLINDED PLACEBO-CONTROLLED 3 COUNTRIES 21 CENTRES	Evidence to stop study early NO	0 MONTH DELAY to the onset of heart failure 0% DELAY to the onset of clinical signs 0% BENEFIT in a patient's life with preclinical disease

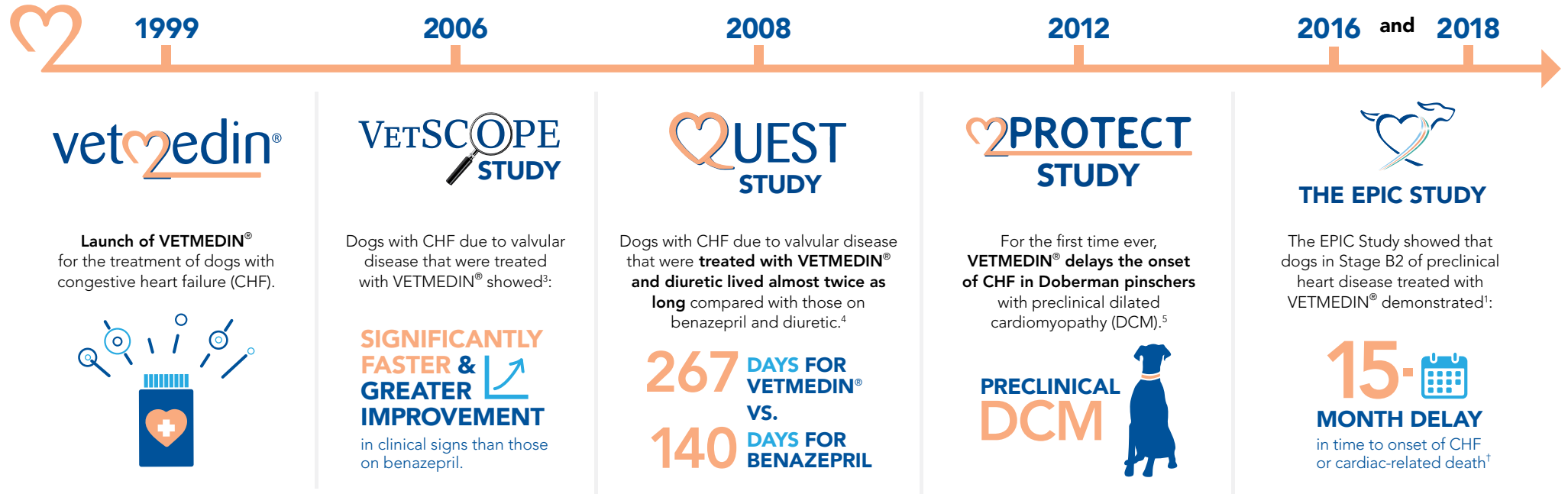
For dogs with preclinical (Stage B2) MMVD, VETMEDIN[®] is the:

- **FIRST** approved treatment
- **ONLY** strongly recommended treatment in the **ACVIM consensus guidelines²**



LEADING THE WAY IN CANINE CARDIOLOGY

For 20 years, VETMEDIN® has been revolutionising the field of canine cardiology, giving dogs with heart disease more time—more time to play, to spend with their families, to live.



* Delay of Appearance of symptoms of canine degenerative mitral valve disease treated with spironolactone and benazepril.

† The composite primary endpoint was defined as the onset of left-sided CHF, cardiac-related death, or euthanasia; dogs in the VETMEDIN® group were significantly less likely to reach this endpoint. Median time to composite primary endpoint was 1228 days in the VETMEDIN® group and 766 days in the placebo group (P=0.0038).

‡ Ten percent more life without CHF was calculated based on an estimated lifespan for all small- to medium-sized dogs being 12.5 years. Fifteen months is equal to 1.25 years, which is 10% of 12.5 years.

References: 1. Boswood A, Häggström J, Gordon SG, et al. Effect of pimobendan in dogs with preclinical myxomatous mitral valve disease and cardiomegaly: the EPIC Study—a randomized clinical trial. *J Vet Intern Med.* 2016;30(6):1765–1779. 2. Keene BW, Atkins CE, Bonagura JD, et al. ACVIM consensus guidelines for the diagnosis and treatment of myxomatous mitral valve disease in dogs. *J Vet Intern Med.* 2019;33(3):1127–1140. 3. Lombard CW, Jöns O, Bussadori CM, for the VetSCOPE Study. Clinical efficacy of pimobendan versus benazepril for the treatment of acquired atrioventricular valvular disease in dogs. *J Am Anim Hosp Assoc.* 2006;42(4):249–261. 4. Häggström J, Boswood A, O’Grady M, et al. Effect of pimobendan or benazepril hydrochloride on survival times in dogs with congestive heart failure caused by naturally occurring myxomatous mitral valve disease: the QUEST study. *J Vet Intern Med.* 2008;22(5):1124–1135. 5. Summerfield NJ, Boswood A, O’Grady MR, et al. Efficacy of pimobendan in the prevention of congestive heart failure or sudden death in Doberman Pinschers with preclinical dilated cardiomyopathy (the PROTECT study). *J Vet Intern Med.* 2012;26(1):1337–1349.

VEMEDIN® Vet (pimobendan) Vetmedin 1,25 mg, 5 mg and 10 mg chewable tablets. Prescription medicine. QC01CE90. Indication: For the treatment of congestive heart failure in dogs derived from dilated cardiomyopathy or heart valve insufficiency (mitral and / or tricuspid insufficiency). For the treatment of dilated cardiomyopathy in the preclinical stage (asymptomatic with an increase in LVESD and LVEDD (left ventricular end-systolic and end-diastolic diameter) in Doberman Pinscher after echocardiographic diagnosis of heart disease. For the treatment of dogs with myxomatous mitral valve disease (MMVD) in the preclinical stage (asymptomatic with a systolic murmur over the mitral valve and increased heart size) to delay the onset of clinical signs of heart failure. Contraindications: Pimobendan should not be used in hypertrophic cardiomyopathy or clinical conditions where an increase in minute volume is not possible due to functional or anatomical causes (eg. aortic stenosis). Because pimobendan is primarily metabolised by the liver, it should not be used in dogs with severe hepatic impairment. Dose and administration route: Oral use. The dosage in the range of 0.2 to 0.6 mg pimobendan per kg body weight, divided into two daily doses, should be respected. The preferred daily dose is 0.5 mg pimobendan per kg body weight divided into two daily doses. For a body weight of 20 kg, this corresponds to a 5 mg chewable tablet in the morning and a 5 mg chewable tablet in the evening. Do not exceed the recommended dosage. Each dose of pimobendan should be given approximately 1 hour before feeding. This text is based on the summary of product characteristics dated 2020-01-16. For more information see www.fass.se. For prices: See www.apoteket.se. Boehringer Ingelheim Animal Health Nordics A / S, Box 467, 201 24 Malmö, tel. 040 23 34 00, fax 040 97 27 50, www.vetportal.se

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