

Occurrence of Mitral Value disease in Large Breed Dogs

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Abstract

The present study aimed to investigate occurrence of Mitral valve disease (MVD) a common acquired heart disease, in large breed dogs in Gannavaram, Andhra Pradesh. An occurrence of 0.32 % was noticed among the total dogs presented with higher prevalence in dogs aged above eight years. Male dogs revealed a higher incidence of MVD than female dogs.

Keywords: Mitral valve disease, large breed dog, occurrence

Mitral valve disease (MVD) is the common acquired heart disease, that affects 10-15 % of dogs. Mitral valvular dysfunction leads to valvular regurgitation, volume overload, and eventual heart failure (Ettinger *et al.*, 2017). Perusal of literature revealed the data available about MVD in large breeds is scanty.

The present study was conducted at Veterinary Clinical Complex (VCC), NTR College of Veterinary Science, Gannavaram during the period, from March 2024 to November 2024. Large breed dogs presented to the VCC with clinical signs like exercise intolerance, cough, lethargy, dyspnoea and body weight greater than 20 kg, were selected and screened for the presence of Mitral valve disease. Diagnosis was based on history, clinical examination, radiographic, electrocardiographic and echocardiographic findings. Diagnostic criteria for MVD included presence of heart murmur over mitral area, evident cardiomegaly along with one or more of following echocardiographic criteria like mitral valve thickening, mitral valve prolapse, mitral regurgitation on colour doppler and fractional shortening > 20 % were considered for study.

During the study period, a total of 7791 dogs were registered at VCC, Gannavaram. The overall occurrence of Mitral valve disease among the total dogs registered was 1.10 % (25/7791) of which large breeds accounted for 0.32 % (25/7791) (Table 1). This finding was in close agreement with the observations of Mattin *et al.* (2015) who reported the occurrence as

0.36 %. Age wise occurrence of Mitral valve disease (MVD) in large breed dogs revealed that majority of the affected dogs were in between 8-11 year age followed by 5-8 year accounting to an occurrence of 40.00 % (10/25) and 36.00 % (9/25) while above 11 years and 3-5 years age groups represented 12.00 % (3/25) each (Figure 1). These findings commensurate with the observations of Keene *et al.* (2019) who opined that MVD was more common in aged dogs which were above eight years. Large breed dogs were affected with MVD at an earlier age compared to small breed dogs (Borgarelli *et al.*, 2004). Higher occurrence of MVD in geriatric dogs was in agreement with the reports of Kumar and Kumar (2024) who stated that aging results in altered homeostasis by affecting cells, tissues and organs there by making geriatric population more prone to the condition. Labrador Retriever were most common among the affected large breed dogs with an occurrence of 68.00 % (17 cases). Mongrels accounted for 16.00 % (4 cases) while lowest occurrence was observed in Bull Mastiff, Dalmatian, German Shepherd and Golden Retriever, each representing 4.00 % of the affected cases (one each) (Figure 2). Labrador Retriever were most prone to MVD as per the current study which were in congruence with the findings of Jong *et al.* (2022) while Svensson *et al.* (2024) recorded a lower occurrence of 14.3 % in Labrador Retrievers. However genetic make up and the breed predisposition to MVD in case of Labrador Retrievers need to be investigated as in case of Cavalier King Charles Spaniel. Occurrence of MVD in male dogs (76.00 %, 19/25) was higher than females (24.00 %, 6/25) in the present study. These findings were similar to the reports of Borgarelli *et al.* (2004)

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and Thirunavukkarasu *et al.* (2019) while Svensson *et al.* (2024) reported comparatively lower incidence (67.3 %) in males than current study. These variations could be attributed to over representation of male dogs which might be due to preference of pet owners to male dogs.

Table 1 : Occurrence of Mitral valve disease in Large breed dogs.

Dogs under study	Number	Number of dogs affected with MVD	Percentage	Percentage among total dogs
Large breed dogs	2337	25	1.07	0.32
Small and medium breed dogs	5454	61	1.12	0.78
Total	7791	86	-	1.10

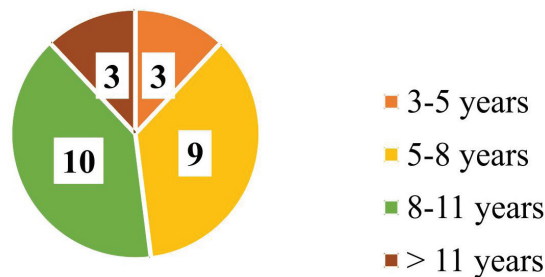


Figure 1: Age wise distribution of Mitral valve disease in large breed dogs (n=25)

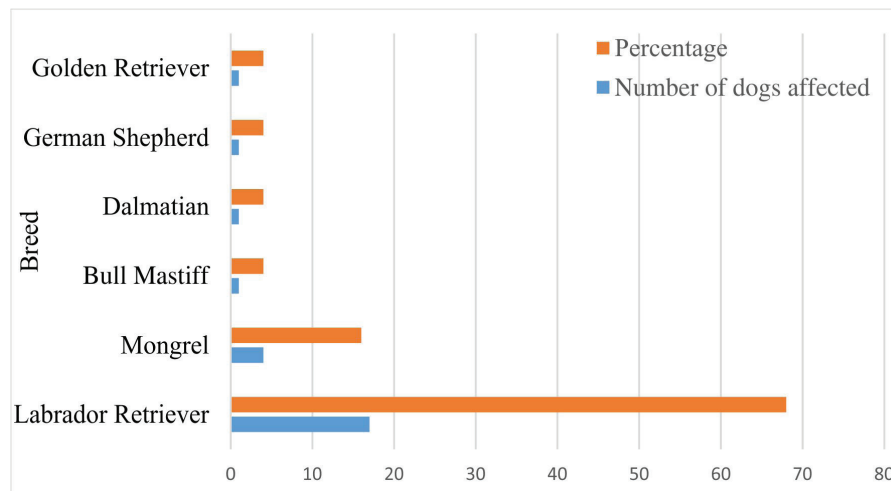


Figure 2: Breed wise distribution of Mitral valve disease in large breed dogs (n=25)

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