VEGETATIVE ENDOCARDITIS AND INTERSTITIAL NEPHRITIS WITH UREMIA IN A DOG

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A ten-year-old male non-descript stray dog was presented for post-mortem examination with a history of sudden death and oozing of blood from mouth before death. Grossly, there was roundening of the heart with a cauliflower-like growth on bicuspid valve of the heart. Histopathological examination of the heart showed focal Zenker's degeneration of the myocardium, mono nuclear cell infiltration and fibrous tissue proliferation in the valvular endocardium. Based on the gross and microscopic lesions in the heart along with serum biochemical findings, this case was confirmed as vegetative endocarditis associated likely with uremia.
Key words: Non-descript stray dog, Histopathology, Vegetative endocarditis.

Endocarditis is mostly seen in valves of dogs (Jones and Hunt, 1983; Sisson and Thomas, 1984; Cook *et al*., 2005). Males are more commonly affected than females and left sided heart valves are the most frequently affected. Predisposing factors to this condition include urinary tract infections, diabetes mellitus, Cushing's syndrome and congenital disorders. Vegetative endocarditis due to uremia associated with chronic kidney disease in dog is uncommon, hence reported.

Materials and Methods

Necropsy of the dog was conducted and affected tissue samples were collected in 10% neutral buffered formalin, processed for paraffin sectioning, cut at 5µ thickness and stained with hematoxylin and eosin (Bancraft and Cook, 1994). The kidney function test for the dog was also done.

Results and Discussion

The evaluation of kidney function revealed marked azotemia i.e. BUN (25.67 mg/dl) and creatinine (6.78 mg/dl) associated with chronic kidney disease. In spite of the treatment, the dog died and presented to the department in order to investigate the cause of death. The necropsy revealed pale mucous membranes with emaciated carcass. Thoracic cavity contained blood clots and blood tinged fluid. There was rounding of the heart with a small irregular shiny cauliflower- like growths noticed on bicuspid valve of the heart (Fig.1). Lungs were pale and collapsed. Kidneys were pale and the stomach showed diffuse mucosal congestion. Histopathological examination of the heart showed focal Zenker's degeneration of the muscle, mono nuclear cell infiltration and thickening of valvular endocardium due to fibrosis (Fig.2).

Uraemia is the most common cause of endocarditis in dogs, followed by endocardial necrosis and thrombosis (Jones and Hunt, 1983). The common form of endocarditis is that occurring in renal failure in dogs and lesions confined to the left atrium (Robinson and Maxie, 1993). Endocardial and major arterial lesions are more common in acute than in chronic renal failure (Robinson and Maxie, 1993). However, in the present case, uremia due to chronic kidney disease appeared to have caused valvular endocarditis, which is rather uncommon.

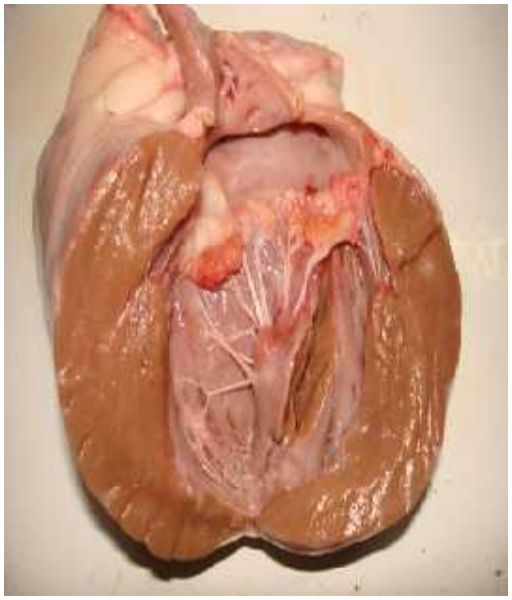

Fig 1: Heart: Note cauliflower like growth On the bicuspid valve.

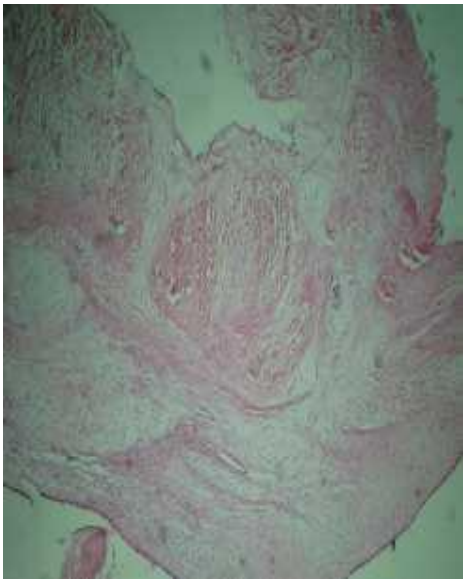

Fig 2: Heart valve: Thickening of valve due to fibrosis (H &E, 100X)

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