Bacteriological and Histopathological Study of Canine Nephritis on Clinical Samples

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Abstract: The study on canine nephritis was carried out over a period of one year on sixty dogs (60) presented at the Small Animal Clinics, Madras Veterinary College, with clinical signs suggestive of renal insufficiency and 30 dogs with gross nephritis lesions submitted to the department of Veterinary Pathology. The mean age of affected animals was 7.8 ± 0.34 years. Sixty percent of the animals affected were males and 40 % were females. Aged dogs (mean - 7.8 ± 0.34 years) were more susceptible for nephritis. German shepherd (26.66 %) and Spitz (21.66 %) showed a higher incidence of nephritis. E.coli was the principal organism isolated from urine samples. In this study, out of 56 cases studied histopathologically, majority of the animals showed subacute and chronic type of nephritis. The increased incidence of subacute and chronic type of nephritis suggested that renal diseases were not diagnosed in the early stages because of the less sensitivity of routinely used screening tests like BUN and serum creatinine.

Key words: Bacteriology, histopathology, canine nephritis

INTRODUCTION

Renal diseases are important clinical problems encountered in dogs and are frequent causes for illness and death. Although renal disorders are more common in older dogs, recent reports show that dogs of any age could be affected. It may affect glomeruli, tubules, interstitial tissue and / or vessels. Some renal diseases may be associated with dysfunction (example: nephrogenic diabetes mellitus) or biochemical abnormalities (cystinuria) without detectable morphological abnormalities. Others may be associated with morphologic renal disease that affects one or both kidneys. Due to the reserve capacity of the kidneys, early renal disease may have only a few consequences to the animal. Renal disease may regress, persist, or advance. Unfortunately many renal diseases are not detected until they become generalised, leading to serious impairment of renal function. The condition may progress to renal failure due to late diagnosis of kidney dysfunction. Final stage renal failure is associated with a high rate of fatality and a high financial expenditure for therapy. Hence this study has been carried out to study the bacteriological and histopathological features of canine nephritis on clinical samples.

MATERIALS AND METHODS

Experimental animals: The study on canine nephritis was carried out over a period of one year on sixty dogs (60) presented at the Small Animal Clinics, Madras Veterinary

Fig. 1: Colony characters of e.coli and s. Aureus on different bacteriological media
A. Growth of E.coli on EMB agers (Colonies with greenish black metallic sheen)
B. Growth of E. Coli on Mac conkey agers (Pink cloured colonies)
C. Growth of S. Aureus on mannitol salt ager (Yellow colured colonies)
D. Growth of E. Coli on unichome II agers (Pink colourd colonies)
E. Growth of S. Aureus on unichorme II agers (White colorde colonies)

College, with clinical signs suggestive of renal insufficiency and 30 dogs with gross nephritis lesions submitted to the department of Veterinary Pathology. The diagnosis was confirmed by serum biochemical and ultrasonographical studies\(\text{[4]}\). The mean age of affected animals was 7.8 ± 0.34 years. Sixty per cent of the animals affected were males and 40% were females. Aged dogs