PATHOLOGICAL OBSERVATIONS OF RETENTION CYST IN CAPRINE KIDNEY#

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ABSTRACT

The present study was undertaken during period of June, 2015 to December, 2015 to elucidate the occurrence of retention cysts in kidney of goats. A total number of 1,823 specimens of urinary system of goats were examined irrespective of age, sex and breeds in North-West Rajasthan. Out of these, 152 specimens of kidney suspected for abnormalities were further processed for histopathological examination. This condition was recorded in 2 (1.31 per cent) cases. Grossly, there were cystic cavities in the renal parenchyma. Cysts were present in the cortex and medulla of kidney. Microscopically, these cysts were found in the glomerular space and in tubules as a dilation of subcapsular space of glomeruli. Tubules showed focal hyperplastic lesion by the disordered growth of tubular epithelial cells and cyst formation.

Key words: Goat, kidney, retention cyst, histopathology.

Introduction

India is a pastoral country where animal constitutes men’s entire wealth and answer of most of his needs. Goat rearing can be compared with many most important animal industries of India. India has largest population of goat in the world having 135.17 million goats, which constitutes 26.40 per cent of total livestock of India. Out of this Rajasthan possesses about 16.03 per cent (21665939) goats. (19th Livestock Census, 2012). The goat is an important livestock species, adopted for different climatic conditions and has a good disease resistance power. Goat play key role in contribution to the national economy by their products like milk, meat, hair, hide and manure. It plays important role to promote both the health and wealth of the nation by providing the principal dietary animal protein in the form of meat and milk of high caloric value and by earning substantial amount of foreign exchange from exported skin and by-products, respectively. Goats are a frequent victim of many parasitic, bacterial, viral, toxic and other injurious agents which lower the weight gain as well as milk yield. The economic losses from fatal urinary infection are substantial, not only due to mortality but also because of unthalmis and the cost of preventive measure in non fatal cases. Kidney is one of the most intriguing and challenging organ to the pathologist, both as regards to the altered structure and disturbed function (Boyd,1961). Therefore, it becomes pertinent to study the renal affection in goats. The present study has been carried out for the histopathology of retention cyst.

Materials and Methods

In the present study, a total of 1,823 samples of goat urinary system were examined grossly for pathological conditions, in which 152 samples of kidney showing frank gross lesions were collected in 10 per cent formal saline for further histopathological examination. For histopathological examination, processing of tissues was done by paraffin embedding using acetone and benzene technique (Lillie, 1965). The tissue sections of 4-6 micron thickness were cut by help of hand operated microtone and stained with haematoxylin and eosin staining method as a routine. As far as possible, results were recorded by gross observations and microphotographs.

Results and Discussion

This condition was observed in 1.31 per cent cases. Almost similar incidence was recorded by Sahoo and Rao (1985) as 2 per cent. Higher incidence was recorded by Baghban and yaripour (2016) as 3.19 per cent, Sarita (2016) as 3.32 per cent, Kiem and Charan (1992) as 5.9 per cent and Dadhich (1996) as 5.03 per cent. Grossly, the kidneys were large and pale. Cystic cavities in the renal parenchyma were observed. Cysts were present in the cortex and medulla of kidney. The kidneys became spongy. These findings are similar with those described by Kharole (1964) and Cohrs (1967). Microscopically, Fig. 1: Microphotograph of kidney showing retention cyst in the cortico-medullary area with leucocytic infiltration. (H & E 40X).

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these cysts were found in the glomerular space and in tubules as a dilation of subcapsular space of glomeruli. Tubules showed focal hyperplastic lesion by the disordered growth of tubular epithelial cells and cyst formation (Fig. 1). Atrophic changes were present in the glomeruli and some small basophilic dots attached to the wall of cyst. Cysts were varying in size. Hyaline and granular substance was present in these cysts. Inflammatory cells were seen around the cysts. These observation falls in line with those described by Somvanshi et al. (2005), Rezaie (2014), Saini et al. (2015) and Kumar et al. (2016). This condition may be due to chronic renal diseases or other renal diseases that cause intratubular obstruction (Vegad, 1995).

References