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A case report of cystic calculi in goat kid

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Abstract

A study was carried out to find out the various causes of mortality in kids and to optimize the management strategies to control kid mortality in an organized goat farm with more than 500 breedable Tellicherry does at Kancheepuram district, Tamil Nadu. Detailed necropsy was carried out in all the 52 kids died out of 551 live kids born during the study period of nine months. In which cystic calculi (2.86%) was one of the reason by which kid mortality were occurred. A 45 days old buck had the following clinical signs *viz*, anorectic, dribbling of urine, oliguria, stranguria, perianal swelling and distended bladder region. Despite of the continuous treatment buck suddenly found dead. Autopsy revealed presence of numerous amorphous calculi on the neck of the bladder and congested kidneys.

Keywords: Kid survivability, mortality, Cystic Calculi, Autopsy, stranguria

Introduction

Goats (*Capra hircus*) are an important species of livestock in India, which contribute greatly to the agricultural economy, especially in areas where the crop and dairy farming are not feasible. Their role in the livelihood of a large proportion of small and marginal farmers and landless labourers are remarkable. Goat rearing has been promoted by various governmental and non-governmental organizations all over the world to mitigate rural poverty, especially in the regions of arid/semi-arid tropical environments, due to their drought-tolerant ability, browsing of wild grasses, tree buds and leaves etc. They require moderate care and reproduce quickly and start to bear kids from the age of one year old ^[1].

Goat production system in India has started slowly moving from traditional low input extensive system to high input commercial production. One of the important limiting factors of intensive goat rearing is the high level of mortality of kids, which can affect the economic viability of commercial goat farming. Several factors have been reported as potential causes of kid mortality *viz*, litter size, sex, birth weight, season etc. The kid mortality before weaning is the single major cause of economic loss to goat farmers, which need to be reduced by making improvements in the management strategies. Very little work has been done on the causes of morbidity & mortality and the influence of improved management practices to reduce them is being tried in commercial goat farms.

Case history

A 45 days old buck had the following clinical history *viz*, anorectic, dribbling of urine, oliguria, stranguria, perianal swelling and distended bladder region. Autopsy revealed presence of numerous amorphous calculi on the neck of the bladder and congested kidneys. Detailed necropsy was conducted on all the dead kids. Samples were collected and subjected to necessary laboratory investigation procedures to confirm the etiological agent.

Results and Discussion

Aetiology:

- Deprived water intake
- Mineral imbalance (Ca:P) ^[2]
- Diet plays a significant role ^[3, 4]
- Individual animal blood biochemical parameter variation

Clinical Sign

The kids that died due to cystic calculi had the following clinical signs *viz*, anorectic, dribbling

of urine, oliguria, stranguria, perianal swelling and distended bladder region. Similar kind of clinical sign were observed by some researchers [5]. In contrary to present study it has been reported that obstructive urolithiasis is common in castrated adults [6, 7, 8, 9].

Necropsy findings and histopathology

Grossly, the bladder was severely distended, serosal blood vessels showed congestion with haemorrhages in the lower part of bladder. The urine was normal in colour and slightly thicker in consistency with the presence of numerous greyish

white amorphous variably sized calculi. Kidneys appeared congested [10, 11].

Histologically, urinary bladder showed extensive neutrophil infiltration in muscularis mucosa with serofibrinous exudates and severe vascular engorgement. Kidney showed mild diffuse swelling of tubular epithelial cells with interstitial lymphocytic infiltration and vascular engorgement. Scanty or no literature was available in this regards. Presently, there is only scanty information available.

Kid- 3 months old- Cystic calculi - Gross and histopathology.



Fig 1: Clinical sign- Perianal swelling



Fig 2: PM -Gross lesion- Urinary bladder- haemorrhage



Fig 3: Urinary Bladder showing multiple stones

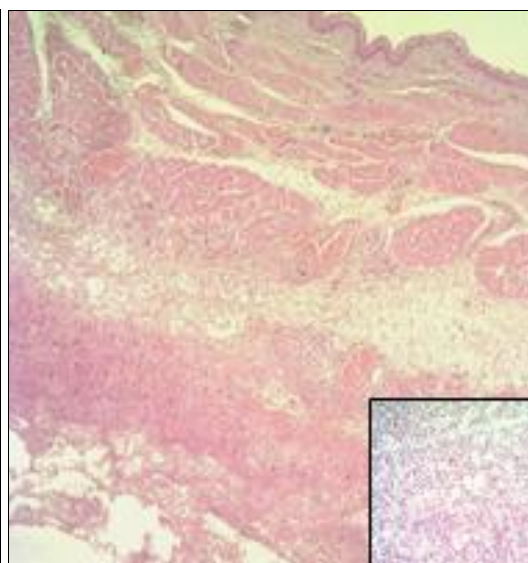


Fig 4: HP-Urinary bladder- Acute cystitis HEX100x (inset-400x)

Conclusion

Present case report suggests that, this might be due to individual animal's genetic or non-genetic causes. Customized managerial practices have to be evolved for individual farm. Further detailed study can be carried out based on the disease incidences.

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