OBSTRUCTIVE UROLITHIASIS IN MALE BUFFALO CALVES – A REPORT OF THREE CASES

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INTRODUCTION

Urolithiasis is a common disease of ruminants caused by formation of calculi in the urinary tract with subsequent blockage to urine outflow consequently leading to uremia and death. It has been attributed to be the fifth most prevalent cause of death in feedlots (Singh *et al*., 1981). In India, urolithiasis has mostly been reported in bullocks, goat, sheep and buffaloes from different corners of the country (Tyagi and Singh, 1993). It appears to affect equally both sexes; however, urinary blockage is an important problem only in males because of the anatomical conformation of their urinary tract (Larson, 1996; Radostits *et al*., 2000). The condition is predisposed by feeding dry paddy straw diet without urea treatment and mineral mixture supplementation. This paper reports three cases of obstractive urolithasis in male buffalo calves.

Keywords: obstructive, urolithiasis, anuria, buffalo

CLINICAL SIGN AND OBSERVATIONS

Three cases of urolithiasis were presented to the Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Durg (C.G.) India with the complaint of anorexia, abdominal pain, restlessness and anuria. Further anamnesis revealed that all these calves were maintained on dried paddy without urea treatment. Clinical signs revealed bilateral abdominal distention, grinding of teeth, dribbling of urine, arching of back and retention of urine. The history and clinical signs were similar in all cases, however in one case there was abnormal enlargement of the preputial region owing to retained urine (Figure 1).

TREATMENT AND DISCUSSION

All the animals underwent surgery under Medetomidine (20 µg/kg b.wt) sedation and posterior epidural anaesthesia (5 ml 2% lignocaine HCL). Fluid and supportive therapy were given to counteract severe dehydration and uraemia. The calculi were located at the prescrotal urethra in one case and distal fold of sigmoid flexure in other two cases. Therefore, prescrotal urethrotomy (One case) and post scrotal urethrotomy (Two cases) were performed in usual manner (Figure 2 and 3).

The calculus fragments were very small or sandy, sabulous materials measuring 2-3 cm inside the urethra. Urethra was flushed in both directions to ensure patency and catheterization was done to ensure urethral patency (Figure 4).

The urethral mucosa and subcutaneous

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Figure 1. Showing a buffalo calf with retained urine and swelling at the preputial region.

Figure 2. Dribbling of urine from catheter in Prescrotal urethrotomy.

Figure 3. Lodged calculi *in situ* at sigmoid flexure during post scrotal urethrotomy.

Figure 4. Placement of plastic catheter after post scrotal urethrotomy.

tissue was sutured by absorbable suture catgut size 2-0. The skin was sutured by the silk no. 2 in interrupted mattress pattern. Post surgical medication comprised of Intravenous fluid therapy in the form of DNS (5%) 5 liters for 3 days, antibiotic (Ampicilin-cloxacillin, 1 gm, intramuscularly for 5 days), analgesic (Meloxicam 0.2 mg/kg b. wt. intramuscularly for 4 days) and litholytic agents along with urine acidifiers (given for 7 days orally). There was uneventful recovery in all the three cases in a time period ranging from 8-10 days. The owners were advised to feed urea treated paddy straw. There was no recurrence of the calculi in a follow up period of 6 months.

Clinical signs associated with urolithiasis depend upon the severity of blockage and the reaction of surrounding tissue (Van Saun, 1997). Complete blockage results in various stages of stranguria, exaggerated and prolonged urination posture, urine dribbling and hematuria. Affected animals may be depressed and lethargic, grind their teeth, and show abdominal distention and signs of pain (Van Saun, 1997). Rupture of the urinary bladder is the most common sequel to obstructive urolithiasis especially in buffalo calves. While a discrete dorsal tear may sometimes heal spontaneously, ventral tear requires emergency surgical intervention (Tyagi and Singh, 1993). Feeding dry paddy straws without urea treatment adds in occurrence of urolithiasis owing to the fact that it is rich in oxalates. The farmers usually do not provide mineral mixtures in ration of calves which could result in altered calcium phosphorus ration in blood predisposing the poor calves to urolithiasis (Larson, 1996).

It is therefore, concluded that prescrotal and postscrotal urethrotomy with urethral catheterization was successful in the treatment of obstructive urolithiasis in buffalo calves.

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