

## PERINEAL URETHROSTOMY FOR SUCCESSFUL MANAGEMENT OF UROLITHIASIS IN A MALE BUFFALO CALF

Sudheesh S Nair<sup>1+</sup>, V.P. Athira<sup>2</sup>, R. Soumya<sup>1</sup>, S. Anoop<sup>1</sup>, M.K. Narayanan<sup>3</sup> and  
C.B Devanand<sup>4</sup>

Kerala Veterinary and Animal Sciences University, Thrissur – 680651, Kerala  
<sup>1</sup>Assistant Professor, <sup>2</sup>MVSc Student, <sup>3</sup>Associate Professor, <sup>4</sup>Professor and Head,  
Department of Veterinary Surgery and Radiology,  
College of Veterinary and Animal Sciences, Mannuthy

**Abstract:** A 2 month old male buffalo calf was presented to Teaching Veterinary Clinical Complex, Mannuthy, KVASU with history of not passing urine from the past 2 days of presentation. Animal had distended abdomen with frequent straining for urination. Condition was diagnosed as urolithiasis and perineal urethrostomy was performed under epidural anaesthesia and animal made an uneventful recovery.

**Keywords:** Perineal urethrostomy, urolithiasis, buffalo calf.

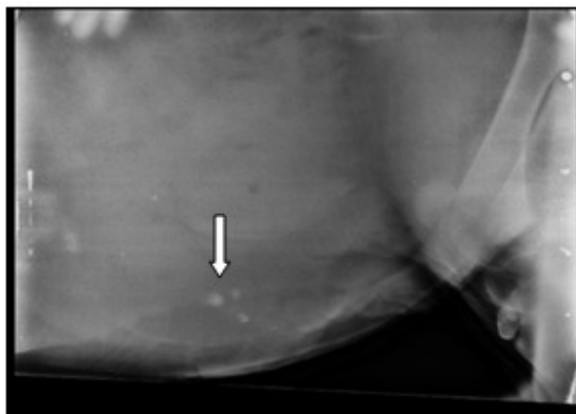
### INTRODUCTION

Urolithiasis is a common subclinical disorder among ruminants raised under management systems where the ration is composed primarily of grain or animals graze on certain types of pasture. Urinary calculi or uroliths, form when inorganic and organic urinary solutes are precipitated out of solution. The precipitates occur as crystals or as amorphous deposits. Calculi form over a long period by a gradual accumulation of precipitate around a nidus (Blood *et al.*, 2000).

### MATERIALS AND METHODS

A 2 month old male buffalo calf was presented to Teaching Veterinary Clinical Complex, Mannuthy, KVASU with history of not passing urine from the past 2 days of presentation. Animal had distended abdomen with frequent straining for urination. Abdominocentesis was performed which yielded straw coloured peritoneal fluid. Lateral abdominal radiograph revealed distended bladder with evidence of urinary calculi (Fig.1).

The site was prepared for aseptic surgery. Animal was gently restrained on lateral recumbancy after caudal epidural anaesthesia using 2% lignocaine hydrochloride along with local infiltration of the site and a 2 cm long incision was put on the perineum commencing 2 inch ventral from anal opening.



**Fig.1:** distended bladder with urinary calculi

Subcutaneous tissue and retractor penis muscles were separated to expose urethra (Fig.2). A 1cm long incision was put on ventral aspect of urethra and calculi was found obstructing and gentle manipulation lead to gushing out of urine. The PH of urine was found to be 8.5. Retrograde placement of 10 F infant feeding tube was done by inserting into the bladder through urethral incision and urine was relieved completely (Fig.3). The muscles and subcutaneous tissue were sutured using vicryl size 1 in simple continuous suture pattern and skin was sutured using nylon in simple interrupted suture pattern. The catheter was fixed with the female mount of the catheter left out side and sutured with the skin edges.



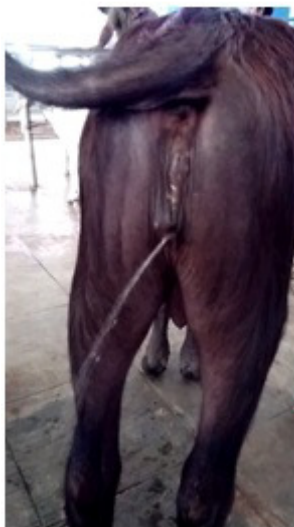
**Fig.2:** Exposed urethra



**Fig. 3:** infant feeding tube was fixed in position

In postoperative phase, animal was administered with antibiotic, streptopenicillin at 10mg/kg i/m for 5 days and analgesics, meloxicam at 0.2mg/kg i/m for 3 days and urinary acidifier, ammonium chloride at 200mg/kg orally for 15 days. Urinalysis revealed alkaline urine with presence of struvite crystals. Postoperative flushing of the bladder with 2% boric acid solution was performed for dissolution of calculi. The PH of urine was tested on weekly intervals and it was found to attain the normal values of 7 by second postoperative week. The

catheter and sutures were removed after 2<sup>nd</sup> post operative week and the animal was urinating through the urethrostomy opening (Fig.4).



**Fig.4:** Animal urinating after removal of catheter and sutures

## **RESULT AND DISCUSSION**

Urolithiasis is an important clinical disease of castrated male ruminants. The treatment of obstructive urolithiasis is primarily surgical. Administration of specific solutions into the bladder can rapidly dissolve most uroliths (Blood *et al.*, 2000). Modified perineal urethrostomy performed in the present case was intended for insitu catheter placement for effective flushing of bladder with weak acidic solution of 2% boric acid. This was in accordance with (Gunjoo *et al.*, 2013) who had reported feeding of 10g ammonium chloride for the dissolution of phosphate calculi. Urolithiasis in ruminants are managed by different surgical interventions envisaging of urethral obstruction for establishment of normal urine flow and urinary diversion techniques are used which include cystic catheterization, bladder marsupialization, percutaneous tube cystotomy, penile transection with urethral fistulation and pelvic urethrotomy (Fazili, *et al.*, 2012). In the present case the perineal urethrostomy was highly beneficial for managing the urethral obstruction which could relieve obstruction and establish urine flow through artificially created opening.

## **SUMMARY**

A male buffalo calf was presented with history urethral obstruction which was diagnosed as urolithiasis and a timely perineal urethrostomy under epidural anaesthesia gave successful result and the animal made an uneventful recovery.

## **ACKNOWLEDGEMENTS**

The authors gratefully acknowledge and thank Dean, College of Veterinary and Animal sciences, Mannuthy, and Professor and Head University Veterinary Hospital Mannuthy for providing facilities to undertake the study.

## **REFERENCES**

- [1] Blood, D.C., Radostitis, O.M., Gay, C.C., Hinchcliff, K.W. 2000. *Veterinary Medicine*, edn 10. W.B. Saunders. p565.
- [2] Fazili, M.R., Bhattacharyya, H.K., Buchoo, B.A., Malik, H.U. and Dar, S.H. 2012 Management of obstructive urolithiasis in dairy calves with intact bladder and urethra by Fazili's minimally invasive tube cystotomy technique. *Vet. Sci. Dev.* **2**: 50-53.
- [3] Gugjoo, M.B., Zama, M.M.S., Amarpal, Mohsina, A., Saxena, A.C. and Sarode, I.P. 2013s Obstructive urolithiasis in buffalo calves and goats: incidence and management. *J. Adv. Vet. Res.* **3**: 109–113.