UROLITHIASIS WITH UNUSUAL COMPLICATION OF LODGED CATHETER IN THE BLADDER OF A SPITZ DOG

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Urolithiasis in dogs arises due to deposition of sediments anywhere within the urinary tract and may consist of one or more of the poorly soluble crystalloids of urine. The formation of uroliths has been attributed to interaction of multiple physiological and pathological processes (Osborne et al., 1996). These stones and crystals can form anywhere in the urinary tract of the dog, including the kidney, urethra, or most commonly, the bladder (Kasoudhan et al., 2014). Small sized urolith may pass with urine without causing any discomfort to the animal while larger sized urinary stones often get stuck up in the urinary tract thereby leading to clinical syndrome (Ettinger and Feldman, 2000). Incidence rate for urolithiasis for dogs is reported to be around 0.2% (Slatter 2003). The incidence of cystoliths is mainly reported in male dogs but less commonly recorded in female also (Ampalp et al., 2010). Lower urine volume and fewer numbers of micturitions resulting in increased mineral concentrations in smaller breed dogs compared with larger breed dogs may cause the predisposition (Stevenson et al., 2001). Cystotomy is the most common procedure to remove vesical calculi in small animals (Waldron, 1993). The tube cystotomy was best in the cases associated with severe phalitis and suspected urethritis (Ampalp et al., 2012). The present communication puts forth a clinical case of urolith lodged in the urethra just behind the os penis, and catheter getting lodged in urinary bladder following catheterization of bladder in a spitz dog.

Case history and Observations

A 6 year old spitz dog was presented to Department of Veterinary Surgery and Radiology, C.V.Sc. & A.H., OUAT, Bhubaneswar with the complaint of dysuria along with blood tinged urine since 5 days. Clinical examination revealed dog to be dull, depressed and dehydrated. Hematological findings revealed anaemia (Hb – 8.7 gm/dL), increase in packed cell volume (62%) and neutrophilia (86%). Biochemical parameters revealed mild increase in values of blood urea nitrogen (32mg/dL), creatinine (1.8 mg/dL), SGOT (24U/L) and SGPT (134 U/L). Abdominal palpation revealed distended urinary bladder. Suspecting the case of urolithisais, the patient was subjected to radiographic examination which revealed urolith lodged in the urethra just behind the os penis.

The efforts to catheterize the urethra for dislodgement of the uroliths by retrograde flushing were unsuccessful. The urolith was pushed back into the bladder by retrograde flushing of urethra using normal saline followed by fixing the end of the catheter on inner lining of preputial opening. The case was advised to be present after 3 days for cystotomy.

However, the owner reported after 10 days with complaint of dislodgement of the catheter. History revealed that the dog removed the sutures placed at end of the catheter last night and the catheter instead of coming out had migrated back in the bladder. Radiographic examination confirmed the presence of a large piece of catheter inside urinary bladder (Fig. 1). Hence, an emergency cystotomy was planned to retrieve the lodged catheter as well as urinary calculi from the bladder.

Surgical Procedure

The animal was premedicated with atropine @ 0.04mg/kg IM and xylazine @ 1 mg/kg IM followed 10 minutes later with by ketaminate @ 10 mg/kg IM. With the animal restrained in right lateral recumbency, cystotomy was performed at left paramedian
site. Upon incising the bladder wall, the catheter and the urolith were removed (Fig. 2). Retrograde urohydropropulsion was done using a metallic catheter to remove any other small sized calculi inside the urethra. Cystotomy incision was closed in Lembert pattern followed by abdominal muscle closure in simple continuous manner using catgut no. 1 while the skin incision was closed by application of horizontal mattress sutures using braided silk. Another polyethylene catheter was passed from penile urethra to urinary bladder to evacuate urine from urinary bladder and fixed at preputial end.

Postoperative antibiotic coverage was initiated with ceftriaxone 20mg/kg IM for 5 days while meloxicam 0.5mg/kg IM was administered for 3 days. Oral administration of urinary alkalizer (citralka 50 ml twice daily) was also advised for 14 days. Daily dressing of the wound with povidone iodine solution and application of fly repellant spray was carried out for 10 days. Polyethylene catheter was removed on 10th day and skin sutures were removed on 12th day postoperative day.

Results and Discussion

The dog showed fruitful recovery in a period of 15 days. Uroliths are most commonly seated in the bladder or urethra in dogs. Radiography usually makes a definitive diagnosis in cases of urolithiasis as also reported by Kyles et al., (2005). Cystotomy in combination with retrograde urohydropropulsion is still most commonly employed technique, as also reported by Amarpal et al. (2010) and Madhu et al. (2013); it rules out the chances of any remaining urolith anywhere in the lower urinary tract and it also prevents chances of
recurrence in dogs that have concurrent uroliths at various sites in the urinary tract as also mentioned by Grant et al. (2010).

References