

DIAGNOSIS AND SURGICAL MANAGEMENT OF ECTOPIC URETER WITH DOUBLE URETERAL ORIFICE IN A DOG

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SUMMARY

A five months old intact female Labrador Retriever dog was referred to Small Animal Surgery Unit, Teaching Veterinary Hospital of Madras Veterinary College, with the history of urinary incontinence at the end of normal urination for the past three month. On physical examination, the dog was found to be apparently healthy with all the physiological, hematological and biochemical parameters were within the normal limits. On survey radiography, no gross abnormality could be identified. Abdominal ultrasonography revealed renomegaly with dilatation of left renal pelvis and ureter. For a detailed study of the urinary tract, an intravenous pyelography was performed and confirmed as an ectopic ureter. A mid ventral celiotomy was performed and the defect was surgically corrected. The condition was diagnosed as a congenital ureteral ectopia with double ureteric opening. Post operatively intravenous pyelography was performed to check the patency of left ureter. The recovery was good and normal micturition was noticed on 15th post operative day.

Keywords: Dog, Double ureteral orifice, Ectopic ureter

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Ureteral ectopia is a congenital abnormality with termination of one or both ureters into an ectopic location (McCloughlin and Chew, 2000). This congenital anomaly is caused by the disembryogenesis of the ureteric bud and ectopic ureter is observed more frequently in females than males (Novellas *et al.*, 2013). Ectopic ureter bypasses the urinary bladder and attaches to the dorso lateral aspect of urinary bladder instead of opening its normal position (Oglesby and Carter, 2003).

A five months old intact female Labrador Retriever dog was referred to small animal surgery unit of Madras Veterinary College, Teaching Veterinary Hospital with the history of urinary incontinence at the end of normal urination for the past three months. Physical examination revealed urine scalding in the perivulvar region and distended urinary bladder. Hematological and biochemical parameters were within the normal physiological limits. On survey radiography, no gross abnormality could be identified. Abdominal ultrasonography revealed renomegaly with dilatation of left renal pelvis and ureter (Fig. 1). For a detailed study of the urinary tract, an intravenous pyelography was performed. Intravenous Pyelography was done after sedation with inj xylazine @ 1mg/kg B.wt. Contrast medium (Iohexol, 350 mg iodine/ml) containing 600mg/kg iodine was administered to the dog as IV bolus. Intravenous pyelography revealed dilated left ectopic ureter and confirmed as an ectopic ureter (Fig. 2).

The dog was premedicated with Tramadol @ 4

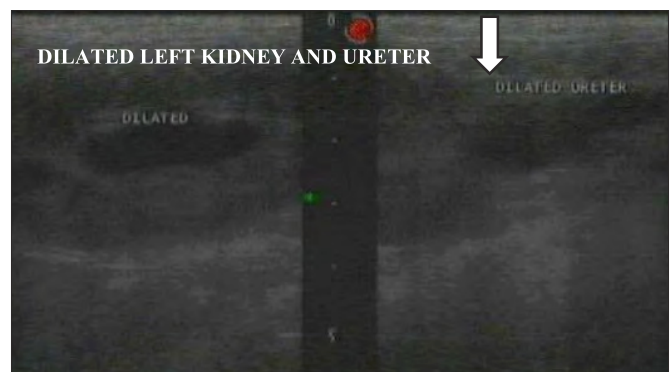


Fig. 1. Renomegaly with dilatation of left renal pelvis and ureter

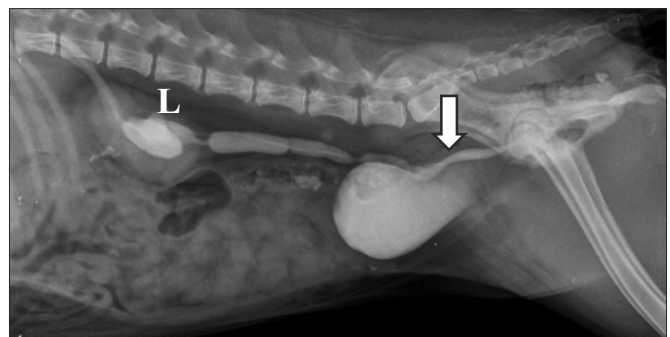


Fig. 2. Intravenous pyelography

mg/kg IV and Diazepam @ 0.2 mg/kg IV. General anaesthesia was induced with Propofol @ 4 mg/kg IV and maintained with 2.5% Isoflurane in 100% oxygen. The surgical site was prepared aseptically. A midventral celiotomy was performed. Cystotomy was done and catheterised both ureters. An additional opening was identified with an intramural ectopic ureter opening into

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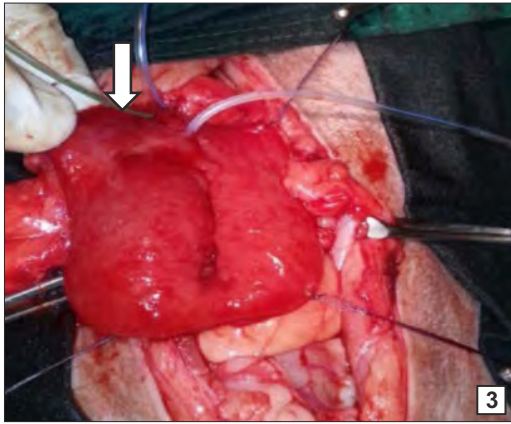


Fig. 3. Double ureteral orifices

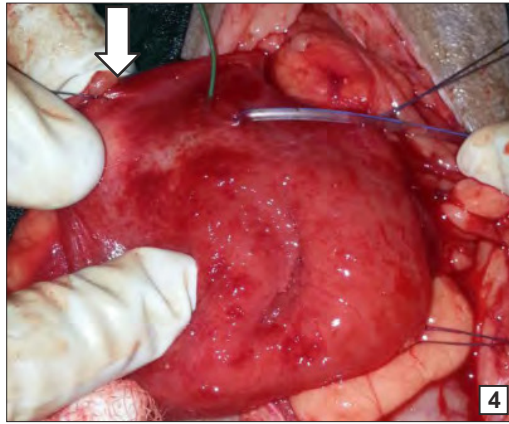


Fig. 4. Intramural left ectopic ureter

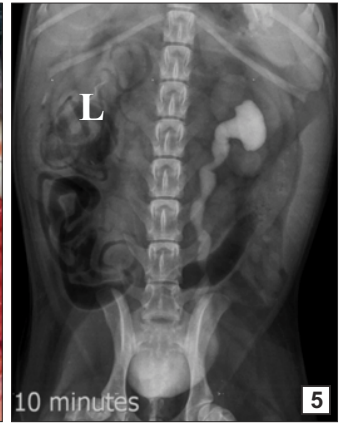


Fig. 5. Intravenous Pyelography showing patency of left ureter

the vaginal floor near the left ureteral opening (Fig. 3). The condition was diagnosed as a congenital ureteral ectopia with double ureteric opening. Intramural left ectopic ureter was ligated and the patency of both ureters were checked (Fig. 4). Urinary catheter no. 6 size was fixed in-situ and abdomen incision was closed by ford interlocking suture pattern with PGA1. The subcutaneous tissues were closed in continuous suture pattern with PGA 1-0. The skin was sutured with monofilament Polyamide3-0 in mattress pattern. Later on post-operatively ceftriaxone @ 20 mg/kg P/O BID, tramadol @ 4 mg/kg P/O BID and Relaxzyme® (Vivaldis Animal Health) @ 10 mg/kg P/O SID was administered for 5 days. The animal made an uneventful recovery after 15 post operative days without any complication. Post operatively intravenous pyelography was performed to make sure the normal functioning of urinary tract (Fig. 5).

Ectopic ureters are often associated with other congenital or acquired anomalies of the urinary system, such as megaureter, hydronephrosis and pyelonephritis, with bacterial invaders easily moving up and into the associated kidney since there is no functional sphincter of the ectopic ureter. Ectopic ureters are the most common cause of congenital urinary incontinence in dogs and cats (McCarthy, 2005; Hoelzler and Lidbetter, 2004).

Neoureterostomy is preferred in the surgical treatment of intramural ectopic ureter and neoureterocystostomy is the preferred surgical technique for the treatment of extramural ectopic ureter (McLoughlin and Chew, 2000; McLoughlin and Bajorlin 2012; Fossum, 2012).

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