Unsuspected Patent Urachus With Partially Prolapsed Urinary Bladder Misdiagnosed As Large Omphalomesenteric Duct – A Case Report

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ABSTRACT

We report a newborn female who presented with patent urachus and partially prolapsed urinary bladder that was misdiagnosed as ruptured omphalocele along-with omphalomesenteric duct. No antenatal work up was done during pregnancy. Patient was operated through a trans-umbilical approach. A large patent urachus was separated from the surrounding structures. It continued with large thick walled urinary bladder. After excision the urinary bladder was closed in two layers. Postoperative course was uneventful.

Key words *Patent urachus, Prolapsed urinary bladder, Omphalocele, Omphalomesenteric duct.*

INTRODUCTION:

Umbilical anomalies in neonates include abdominal wall defects, omphalomesenteric duct remnants, and urachal remnants.[1] These anomalies are usually easy to identify on clinical examination. However, some anomalies may pose diagnostic challenge. Patent urachus with prolapse urinary bladder is an extremely rare congenital anomaly.[2] Here we report a newborn with one such anomaly that was initially misdiagnosed. Final diagnosis was made at surgery.

CASE REPORT:

A female neonate born at full term with spontaneous vaginal delivery and good Apgar score, was referred as a case of ruptured omphalocele. No antenatal work up was done during the pregnancy. Baby passed clear urine per urethra and meconium, after birth. On examination the patient was active pink, vitally stable with an umbilical swelling that was partially covered with membrane with exposed cherry red mucosal mass, resembling intestine. A normal looking female genitalia and patent anus were found. Blood tests were in normal range. An ultrasound KUB showed mild bilateral hydronephrosis. Echocardiography was also reported as normal. She had no other associated anomalies. Surgery was performed at 48-hours of life. A trans-umbilical approach was used. The mucosal mass was carefully separated from the parities and the surrounding structures. It was unsuspected widely patent urachus with partially prolapsed urinary bladder. A per-urethral catheter came out through the umbilical end, further confirming the nature of the anomaly. The urachus was excised at its junction with the dome of the urinary bladder which was repaired in two layers (Fig I- A, B, C). Umbilical defect was closed. Patient had smooth postoperative recovery. At three month follow up she is thriving with no urinary complaints. A follow up ultrasound KUB showed resolution of hydronephrosis.

DISCUSSION:

Patent urachus with prolapse urinary bladder is an extremely rare congenital anomaly. Urachus is the intra-abdominal structure arising from embryonic allantois. It stretches from the dome of the urinary bladder to umbilicus. It involutes and in postnatal life is represented as median umbilical ligament. Number of anomalies related to urachus include complete patency up to the umbilicus, urachal cyst, sinus and vesico-urachal diverticulum.[3] If urachus remains patent and widely open, then urinary bladder prolapse may occur.[4] We noted similar anomaly in our patient.

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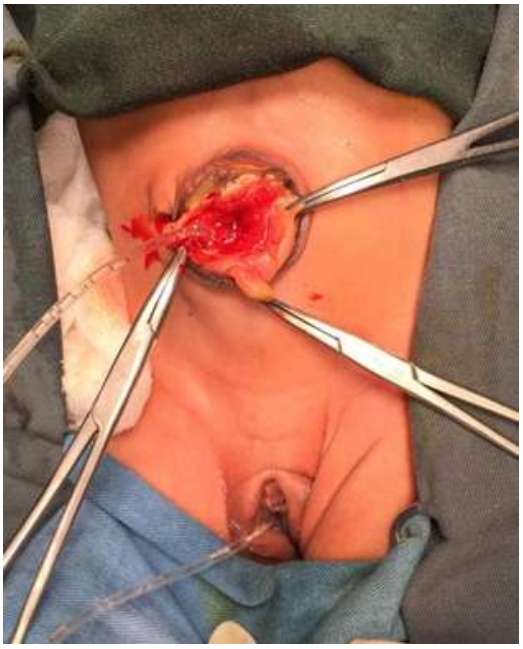

Fig I A: Urethral tube coming out of dome of urinary bladder.

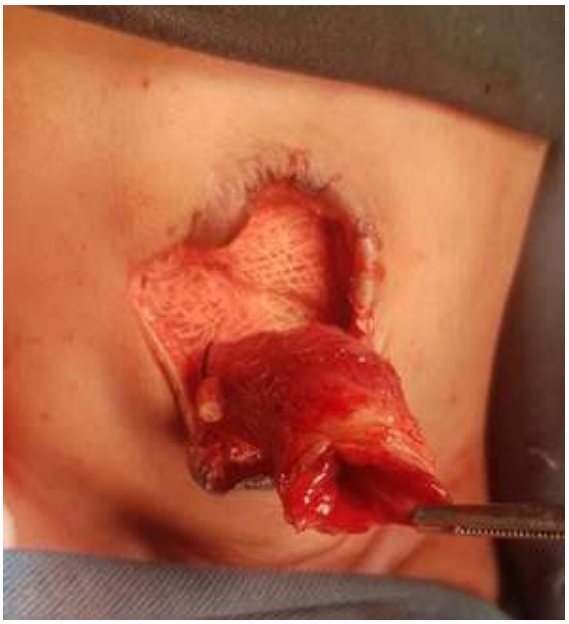

Fig I B: Patent urachus dissected out.

Differential diagnosis of patent urachus with prolapse bladder include omphalocele, bladder exstrophy, and persistent omphalomesenteric duct. These conditions are usually easy to diagnose on clinical examination if classical features are present. However, in our patient it was not easy to make a definitive diagnosis preoperatively. There are few case report in literature related to prolapsed urinary bladder with patent urachus.[5-7] Antenatal diagnosis can be made with the help of ultrasound.[8] In our patient no antenatal workup was done and anomaly was noted after vaginal delivery.

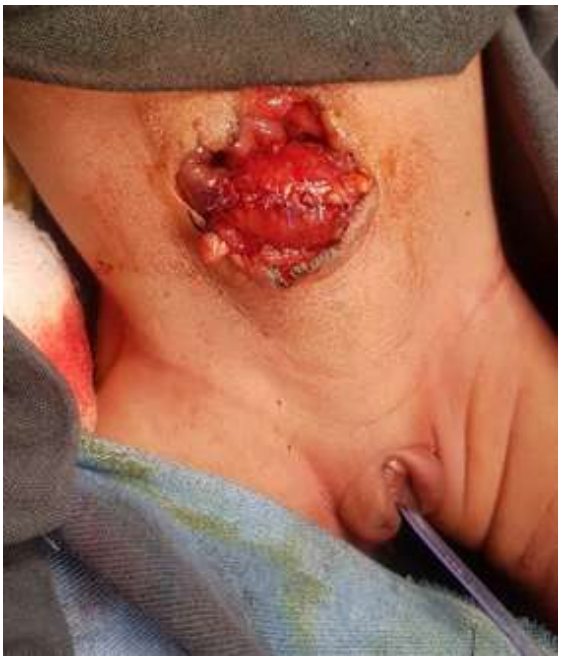

Fig I C: Urinary bladder closure in two layers.

Management of patent urachus with prolapse urinary bladder needs early surgical intervention so as to prevent damage to the exposed mucosa. In our patient urachus was excised easily. Urinary bladder defect was closed in two layers. During surgery it is important to ensure good blood supply to the urinary bladder, adequate bladder capacity at the time of excision of the urachal remnant and prevent damage to the ureteral openings. Complete excision of urachus is important because of its malignant potential later in life.[9] Postoperative assessment for urinary tract can be done by ultrasound and voiding cystourethrogram to check for urinary bladder capacity and vesicoureteral reflux. Our patient remained well with no urinary complaints and ultrasound was also reported as normal.

CONCLUSION:

Patent urachus with prolapse urinary bladder mimics other abdominal wall defects on clinical examination. Dissection of urachus should be meticulous. Excision of widely patent urachus must not compromise the capacity of the urinary bladder. Anatomical and functional assessment of urinary tract at regular follow up is mandatory in postoperative period.

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