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RESEARCH ARTICLE

CONGENITAL PATENT URACHUS PRESENTING AS EXCORIATION OF SKIN : A CASE REPORT

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INTRODUCTION

The first reported case of patent urachus was by Calbriolus in 1550, there after many case reports were done with varied presentations. The persistent allantois communicating from the dome of the bladder to the umbilicus is the urachus, which ultimately undergoes apoptosis and gives rise to the median umbilical ligament. The urachus is a fibrous cord located in the extraperitoneal tissues of the anterior abdominal wall. If the urachus fails to get obliterated, four distinct types of urachal anomalies arise. In order of frequency, they are a patent urachus (50%), a urachal cyst (30%), an umbilical urachal sinus (15%), and a vesicourachal diverticulum (3% -5%) (1, 2).

Case report

A 6 year old male presented to urology opd services with excoriation of skin and discharge around umbilicus of 1 year duration. He doesn't give any history of similar episodes in the past. On general examination he was well oriented to time, place and person. Physical examination revealed umbilical discharge with erythema and excoriation of skin around umbilicus (Figure 1).

Patient doesn't give any history of pain. Abdominal ultrasonography and computed tomography scan shows patent urachus extending from dome of urinary bladder to umbilicus (Figure 2&3). The decision of excision of the patent urachus was planned per abdominally and explained to the patient and their relatives. Cystoscopy was performed but showed no evidence of a bladder anomaly. Finally, extraperitoneal excision of the urachal remnant, including a cuff of bladder, was performed (Figure 4).

There were no postoperative complications, and anatomophological analysis did not reveal a tumor of the urachal remnant. The total procedure lasted around 45 minutes. A urethral catheter was placed for 10 days duration, in view of opening the bladder. The patient voided well following its removal.

DISCUSSION

Congenital patent urachus is a rare anomaly with an estimated incidence of 0.25:10,000 deliveries. Males are affected twice as commonly as females. The urachus (median umbilical ligament), is a midline tubular structure that extends upward from the anterior dome of the bladder toward the umbilicus.

It is a vestigial remnant of at least two embryonic structures: the cloaca, which is the cephalic extension of the urogenital sinus (a precursor of the fetal bladder) and the allantois, which is a derivative of the yolk sac. The tubular urachus normally involutes before birth, remaining as a fibrous band with no known function.

However, persistence of embryonic urachal remnant can give rise to various clinical problems, not only in infants and children but also in adults³. The urachus and umbilical arteries are situated in the space of Retzius, which is an extraperitoneal fascial plane⁴; this may be one of the reasons for severe umbilical bleeding as seen in our patient and the other reason which could also include omphalitis with erosion of umbilical artery. Umbilical discharge is not an unusual presentation in infants and children, the most common cause being umbilical granuloma⁵.



Figure 1

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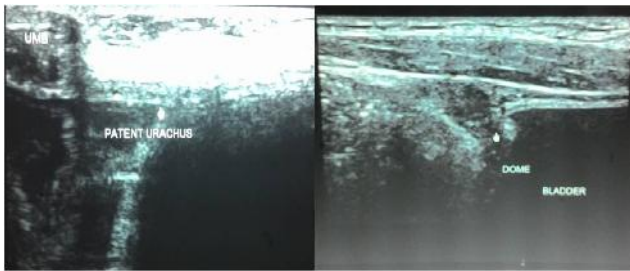


Figure 2a

Figure 2b

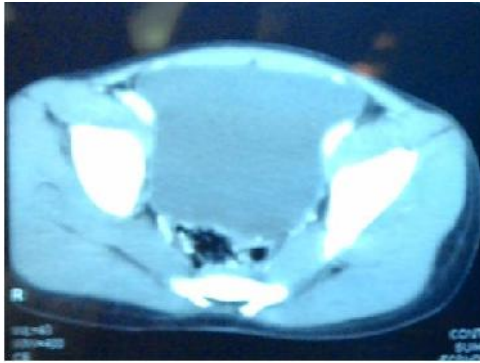


Figure 3

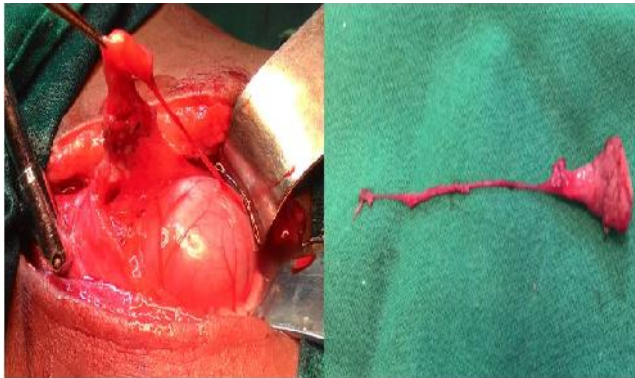


Figure 4a

Figure 4b

The complications of patent urachus are recurrent omphalitis, cystitis, ascending pyelonephritis, calcifications and very rarely asymptomatic urachal anomaly can go on to develop carcinoma and thus the value of prophylactic excision of an urachal anomaly is of unknown value⁶. Symptomatic urachal remnants should be treated with surgical excision.

This should include complete excision of the urachus from the umbilicus to the dome of the bladder⁷. In infants and small children complete resection of the urachus can easily be accomplished through a small 1-1.5 cm incision. In this era of minimally invasive surgery, multiple reports of laparoscopic, and more recently, robotic-assisted laparoscopic resection of urachal remnants in children have emerged⁸.

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CONCLUSION

Urachal anomalies may present in various forms. Symptomatic urachal anomalies should be surgically excised. They may lead secondarily to stasis and infection. Treatment is complete excision of the urachal tract along with a cuff of bladder, which can be done either by open surgery or laparoendoscopic approach. Histological studies show that most urachal anomalies have some persistent epithelium. Simple excision prevents risk of developing infection or malignant degeneration.

Figures

Figure 1: Urachal opening with erythema and excoriation of skin around umbilicus

Figure 2: Abdominal ultrasonography shows patent urachus extending from dome of urinary bladder to umbilicus

Figure 3: Computed tomography scan shows patent urachus extending from dome of urinary bladder to umbilicus

Figure 4a: Extraperitoneal excision of the urachal remnant, including a cuff of bladder, was performed.

Figure 4b: Specimen of patent urachus

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