



A CASE REPORT OF AN INFECTIVE URACHAL CYST IN ADULT

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**KEYWORDS :**

**INTRODUCTION**

The urachus is a remnant of a channel between the bladder and the umbilicus where urine initially drains in the foetus during the 1<sup>st</sup> trimester of pregnancy.

Urachus usually seals off and obliterates around the 12<sup>th</sup> week of gestation and all that is left is a small fibrous cord between the bladder and umbilicus called the median umbilical ligament.

Diagnosis of a persistent urachus/urachal cyst remains challenging due to the rarity of this lesion and the nonspecific nature of its symptomatology.

**CASE REPORT**

A 35-yr. old male presented in outpatient department of CHA with complains of pain in lower abdomen (suprapubic region) for last 15 days and umbilical sepsis with periumbilical erythema for 8 days.

No history of nausea, vomiting or change in bowel or bladder habits.

Systemic examination revealed periumbilical erythema and tenderness in suprapubic region with soft abdomen. Erythema subsided with intravenous antibiotic therapy for one week.



Ultrasonography of abdomen and pelvis showed heterogeneous mass of size ~4.4x2.8 cm in midline extending from anterior wall to urinary bladder. Laparotomy was performed through an infraumbilical incision, which revealed a cyst surrounded by an inflammatory mass extending into the dome of the urinary bladder with two surrounding fibrous cords. The infected urachal cyst and fibrous cords were excised and sent for histopathological analysis to rule out any evidence of malignancy. Postoperative period was uneventful and patient was discharged in satisfactory condition.

Histopathological analysis of the resected specimen showed chronic granulomatous inflammation with no evidence of malignancy. On follow-up, patient is doing well with no episode of pain abdomen or bowel and bladder disturbances.



**DISCUSSION**

Urachus, developmentally is the upper part of the bladder, both of which arise from the ventral part of the cloaca and allantois. Descent of bladder from 5<sup>th</sup> month of development into the foetal pelvis pulls the urachus with it resulting in formation of urachal canal. The lumen of this canal progressively obliterates during the foetal life, with eventual formation of fibrous tract in early adult life.

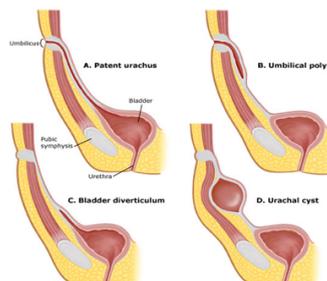
**Histologically, composed of 3 layers:**

- 1) innermost layer: modified transitional epithelium similar to urothelium
- 2) middle layer: fibroconnective tissue
- 3) outermost layer: smooth muscle continuous with detrusor muscle

**Urachal anomalies occur when there is incomplete seal off of the urachal lumen results in following abnormalities.**

**Types: -**

- 1) **PATENT URACHUS (50%):** When the urachus did not seal off and there is a connection between the bladder and the umbilicus.
- 2) **CYST (30%):** When a section of the urachus did not seal off, but there is not a connection between the bladder and umbilicus.



It is rare in adults; more common in men than women. In adults, most common variety is urachal cyst, with infection being usual mode of presentation. Route of infection is haematogenous, lymphatic, direct or ascending from bladder. Commonly cultured organisms are *Enterococcus faecium*, *Proteus* spp., *Streptococcus viridians* and *Fusobacterium* spp.

Our case highlights the potential complications related to congenital urachal anomalies, presenting with as umbilical sepsis with supra pubic pain. Diagnosis of an infected urachal cyst made after radiological investigations.

The risk of urachal malignancy is high among adults with poor prognosis.

Histologically, the innermost layer of the urachus is mainly transitional cell.

Adenocarcinoma is the predominant histological type and most are mucinous. This is probably due to metaplasia arising from chronic inflammation. The prognosis for urachal adenocarcinoma does not differ significantly from non-urachal adenocarcinoma and is relatively poor, with a 5-year survival of 37% and a 10-year survival of 17%.

Ultrasound scan can help to make diagnosis in 77% of patients. As in our case, ultrasound finding gave the diagnosis of urachal cyst showing collection/mass from anterior abdominal wall to urinary bladder. CT scan or MRI scan is essential in case of malignancy. Diagnosis is often made following exploratory laparotomy for an unexplained acute abdomen.

The treatment of choice for urachal cyst is by complete primary excision. However, Yoo et al. in their study suggested a two-stage procedure involving initial incision and drainage followed by later excision of the urachal remnant. Complete excision is important because malignant transformation of the remnant is possible.

Traditionally, open excision has been the approach of choice. However, a laparoscopic approach is also an attractive alternative in recent years. The advantage of this approach is good view and the minimal risk of incomplete excision of the urachal remnant.

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