

**Infected urachal cyst initially misdiagnosed as an umbilical abscess: A case report**Mathew P. Alex¹, Dinesh Kumar Singh², Durgesh Kumar³, Neeta Pandita⁴

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Email: drdurgeshk@gmail.com**Abstract:**

Urachal infections are rare. Their variable ways of presentation may represent a diagnostic challenge. Urachal sinuses are a rare type of these abnormalities. Urachal abnormalities present as swelling, discharge in infancy or later on present as urachal cyst. Umbilical abscess in children are not commonly see in outpatient clinics. A 10 year old boy presented to the clinic with abdominal pain and fever and later developed swelling of the periumbilical region. A provisional diagnosis of periumbilical abscess was made and started on antibiotics. Next day the child again presented to the clinic with development of well defined small abscess on the umbilicus and complaint of pain on micturation. Before incision and drainage was planned a routine USG abdomen was undertaken keeping in mind painful micturation. Ultrasound examination of the abdomen revealed unobliterated urachus extending up to the urinary bladder.

Key words: Urachal infections, perimilical abscess, urachus**Introduction:**

The urachus is an embryologic tract that connects the allantosis with the urinary bladder, which degenerates after birth into the medial umbilical ligament. Normal obliteration of the urachus is incomplete or absent in some people, and usually presents in children.[1] Infections of unobliterated urachus are one of the cause of illness and death among neonates throughout the world.[2,3] But it is a rare pathologic disease entity in the children, which may present only with abdominal pain.[4] This is a report of a 10 years old boy with a case of infected

urachal cyst, who presented with abdominal pain, fever and painful micturition.

Case report

A 10 year old boy presented to the outpatient clinic with abdominal pain and a painful micturation. There was no local tenderness or fever. On laboratory urinary examination there was 10 -12/HPF of pus cell and insignificant albuminuria. Complete blood count, Liver, kidney function tests, ESR and other parameters were within normal limits. The child was started on antibiotics but the child reported back to the clinic next day with fever, rigidity of

abdominal wall with tenderness and slight swelling of the periumbilical region. A provisional diagnosis of abdominal wall abscess was made and he was started on intravenous antibiotics. However on the third day even though the fever had subsided but there was development of well defined small abscess, the size of pea (Figure 1) on the umbilicus with complaint of mild pain on micturation. Before incision and drainage of the abscess was planned, a routine USG abdomen was undertaken.



Figure 1

Ultrasound examination reported a hypoechoic turbid collection seen in the subumbilical region with extension up to the superior aspect of the urinary bladder (Figure 2) with bladder mucosal thickening. Thus a diagnosis of an Urachal abscess with sinus extending upto the urinary bladder was made. The guardians of the child were unwilling to undertake a CT scan due to monetary constraints. The child was referred to a tertiary care centre for further management where a complete excision of the urachus and tract was undertaken.



Figure 2

Discussion

The urachus is a normal embryonic remnant of the primitive bladder dome. It generally exists as a fibrous cord extending from the dome of the bladder to the umbilicus. It also occupies the potential midline space between the peritoneum and the

transversalis fascia. Urachal diseases can be congenital or acquired [5,6]. Congenital anomalies occur when the urachus fails to obliterate. The pathology associated with congenital disorder urachus is generally divided into four categories. The first (a) is a patent urachus in which a communication between the bladder and the umbilicus exists. The next category (b) pertains to the umbilical sinus, in which the urachus opens into the umbilicus. Here, drainage from the umbilicus will often be present. The third category (c) is the vesico-urachal diverticulum, in which the urachus has a wide patent opening into the bladder. Urinary complaints are often cited with this type. The last category (d) is the urachal cyst, in which the urachus encompasses a cystlike structure within its length; this last disease state, the urachal cyst, becomes prominent when infection occurs or ruptures of the cyst [7,8].

Infection occurring within a cyst is a rare manifestation of the urachal disease. From the available reports, it appears that the peak incidence of the infected urachal cyst is in infancy and again in early adulthood. Because of the relative rarity of this disorder there are frequent misdiagnoses [9]. Urachal cysts may present only with abdominal pain and it should at least be considered in the differential diagnosis. However, persistent urachal pathologies may mimic a large number of conditions; as presentation sometimes includes mild periumbilical erythema, umbilical discharge of urine or pus, urologic complaints consistent with a urinary tract infection, symptoms suggestive of an acute surgical abdomen, or a midline mass.

Urachal cysts, especially if infected, often present with fever, leukocytosis, nausea, vomiting, and a mass. Thus they mimic an acute abdomen and are frequently misdiagnosed as acute appendicitis [1,10]. The differential of urachal abscess should include hematoma, sarcoma of the abdominal wall, peritoneal tumor, metastatic carcinoma, ventral or umbilical hernia, and inflammatory lesions [4,11]. It is evident that urachal anomalies should be considered in the differential of abdominal pain to ensure timely and appropriate management.

Conclusion

Pediatrician should consider urachal disease as a rare differential diagnosis for abdominal pain because its presence cannot be ruled out by physical examination only. The most appropriate imaging technique is an ultrasound exam.

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References

1. Allen JW, Song J, Velcek FT. Acute Presentation of Infected Urachal Cysts. *Ped Emer Care*. 2004;20(2):108–111.
2. Chamberlain AH. Omphalitis, a review. *Pediatr Infect Dis*. 1985;4(3):282–285.
3. Carny WI, Jr, JW, May GA. Omphalitis in the adult. *Arch Surg*. 1973;106(2):220–230.
4. Hsu CC, et al. Urachal cyst a cause of adult abdominal pain that cannot be ignored. *Am J EM*. 2005;23:299–230.
5. Ueno T, Hashimoto H, Yokoyama H, Ito M, Kouda K, Kanamaru H. Urachal anomalies: ultrasonography and management. *J Pediatr Surg*. 2003;38:1203. doi: 10.1016/S0022-3468(03)00268-9.
6. Iuchtman M, Rahav S, Zer M, Mogilner J, Siplovich L. Management of urachal anomalies in children and adults. *Urology*. 1993;42:426–430. doi: 10.1016/0090-4295(93)90375-K.
7. Yu JS, Kim KW, Lee HJ, Lee YJ, Yoon CS, Kim MJ. Urachal remnant diseases: spectrum of CT and US findings. *Radiographics*. 2001;21:451–461.
8. Avni EF, Matos C, Diard F, Schulman CC. Midline omphalovesical anomalies in children: contribution of ultrasound. *Urol Radiol*. 1998;10:189–194.
9. Schlaishunt S, Rubin J. A case of urachal remnant presenting as acute abdominal pain. *J Emerg Med*. 1998;17:243–246.
10. Goldberg R, Pritchard B, Gelbard M. Umbilical inflammatory conditions: Case report and differential diagnosis. *J Emerg Med*. 1992 Mar-Apr;10(2):151–1566.
11. Yeh HC, Rabinowitz JG. Ultrasonography and computed tomography of inflammatory abdominal wall lesions. *Radiology*. 1982;144:859.