



LAPAROSCOPIC URACHAL CYST EXCISION – A CASE REPORT

General Surgery

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ABSTRACT

Urachal cyst is one of the urachus anomaly, rarely found in adults. This case report is about a 33 year old male, who came with complaints of umbilical discharge from the past 8 days, without any associated abdominal pain or fever. CT abdomen revealed a remnant urachal cyst. Patient had similar episode of umbilical discharge 3 years back. Patient was explained about his condition and planned for laparoscopic urachal cyst excision.

KEYWORDS

Umbilical discharge, urachal cyst, laparoscopic urachal cyst excision

INTRODUCTION:

Incomplete obliteration of urachus leads to urachal cyst. (1) Of other anomalies due to incomplete obliteration of urachus, urachal cyst is more common. But the incidence of urachal cyst is not known clearly. Urachal cyst may go undetected throughout life if it is uninfected. If infected it may present with pus discharge from umbilicus, fever, abdominal pain. Its presentation in adulthood is very rare. (2)

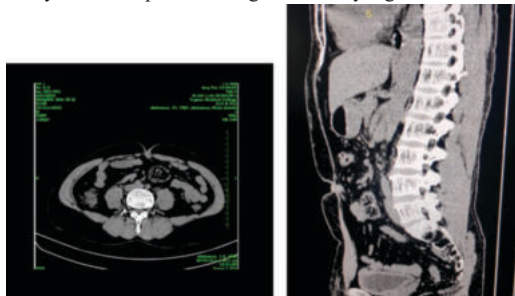


Traditional method of treatment of urachal cyst is laparotomy with urachal cyst excision, but now laparoscopic excision of urachal cyst is being practiced more. (1)

Case Report:

This is a 33 years old male, who had complaints of umbilical discharge for 8 days before presenting to hospital. He had no associated complaints of fever, abdominal pain or vomiting. The umbilical discharge was watery and non foul smelling. Patient does not have any obvious umbilical swelling or pain in umbilical region.

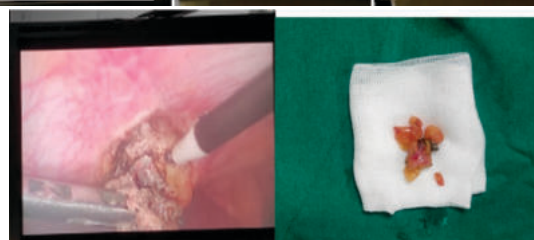
He had similar complaints of watery discharge from umbilicus 3 years back, which subsided on its own without any intervention. Patient had no previous abdominal surgeries. He has no comorbidity with normal bowel and bladder habits. On examination of abdomen only watery discharge from umbilicus was present, no palpable mass /swelling in the umbilicus and no scars were present. Routine blood investigations were done and initial ultrasound imaging revealed focal collection of size 1 x 0.8cm noted in the umbilical region below linea alba with communication to subcutaneous plane. Further CT abdomen revealed diagnosis of urachal cyst-Remnant urachus with nodular soft tissue thickening with calcific foci at umbilical end noted. No evidence of abscess/calcification. Umbilical discharge was sent for culture and sensitivity and was reported as no growth of any organism.



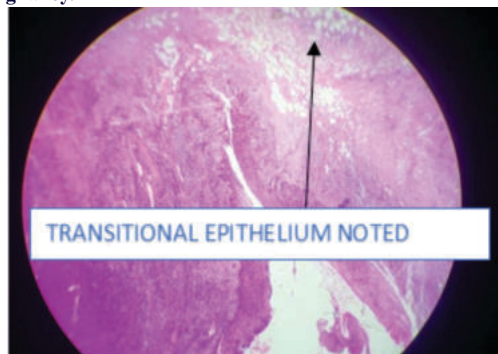
Patient was explained about his condition of urachal cyst and was planned for laparoscopic urachal cyst excision. Under General Anaesthesia. Patient in supine position.

Pneumoperitoneum created through veress needle. 10mm palmar port and another 10mm port at xiphisternum inserted. One 5mm working port inserted at right hypochondrium. Urachal cyst identified and traced. Dissection of urachal cyst from surrounding structures done. Endoloop applied at the end of urachus as distally as possible. Urachal cyst with its contents excised and sent for histopathology examination.

Abdomen closed in layers. Sterile compressive dressing done.



Histopathology Revealed Patent Urachus With No Signs Of Malignancy.

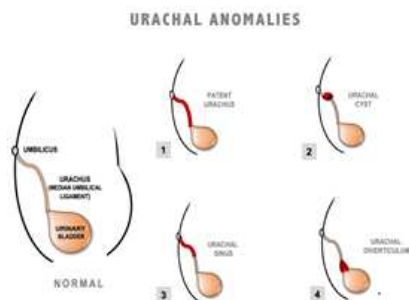


DISCUSSION:

Urachus is fibrous vestigial cord which connects urinary bladder's dome to umbilicus. This is a remnant of the fetal allantois. Excretion of fetal nitrogenous waste from the placenta occurs through this structure (1).

By 4th and 5th months of gestation when the bladder descends towards pelvic cavity the urachus will get stretched. During this time the lumen of urachus will get obliterated completely and forms median umbilical ligament. In this process sometimes improper or incomplete obliteration of urachus occurs leading to various urachal anomalies. (2)

Bauer and Retik described four types of urachal anomalies (3), which depends on level of obliteration and patency, these urachal anomalies are patent urachus, cyst, sinus, or diverticulum



Morphologically Urachus Has 3 Layers-

- Innermost layer is transitional epithelium in 70% of cases and columnar epithelium in the remaining 30% of cases.
- Submucosal middle layer is 2nd layer
- Outermost layer is muscular and this is in continuity with the detrusor muscle of the bladder. All 3 layers will be converted to fibrous tissue when the lumen of urachus gets obliterated (4,5)

Desquamation or degeneration of urachal epithelium will result in cyst formation. When this desquamated or degenerated urachal epithelium comes in connection with bladder, this can get infected leading to simple urachal cyst infection or in worse cases as peritonitis or necrotizing fasciitis of abdomen. (6,7)

Diagnosis of urachal anomalies need proper history taking, clinical examination and radiological investigations like ultrasound or CT scans for confirmation of diagnosis. CT scan helps to identify malignancy changes if present with urachus (8)

The treatment of choice for urachal cyst is surgical excision. But some patients can be treated conservatively by non surgical techniques like aspiration of cyst and antibiotic therapy. But in these cases there is high chances of recurrence. Surgical excision by open method has risk of sacrifice of umbilicus, hence laparoscopic surgical excision is more preferred nowadays (9). Open surgical excision of urachal anomalies can be done through various approaches – umbilical approach or Pfannenstiel incision approach for cases like urachal diverticulum (10). Followup of these patients is mainly needed for next 3–6 months when we suspect there is chances of malignancy or recurrence (11,12)

CONCLUSION:

Urachal cyst are mostly asymptomatic, so its diagnosis needs proper clinical history taking and examination with radiological investigation like CT scan. Laparoscopic urachal cyst excision is gaining popularity than open surgical method as this provides wider and better surgical view without any sacrifice of umbilicus.

REFERENCES:

1. Laparoscopic Excision of a Symptomatic Urachal Cyst (UC) in an Adult. Emil J Mathew, Sandra S Kunnel, Maya Devi, Sanoop K Zachariah
2. Acute presentation of urachal cyst: a case report. Jayakumar S, Darlington D. *Cureus*. 2020;21:8220. doi: 10.7759/cureus.8220.
3. Urachal anomalies: a review of pathological conditions, diagnosis, and management. Wilson AL, Gandhi J, Seyam O, et al. *Transl Res Anat*. 2019;16:100041.
4. Urachal anomalies and related umbilical disorders. Bauer SB, Retik AB. *Urol Clin North Am*. 1978;5:195–211.
5. Urachal remnants: an enigma. Upadhyay V, Kukkady A. *Eur J Pediatr Surg*. 2003;13:372–376. doi: 10.1055/s-2003-44725.
6. Intraperitoneal rupture of an infected urachus. Horgan PG, Johnson S, Courtney D. *Br J Urol*. 1994;73:216. doi: 10.1111/j.1464-410x.1994.tb07502.x.
7. Necrotizing fasciitis: a rare complication of an infected urachal remnant in adults. O'Connor JP, Biyani CS, Austin OM, Browning AJ. *J Urol*. 2003;170:920–921. doi: 10.1097/01.ju.0000080374.24797.67.
8. Urachal remnants in adults. Berman SM, Tolia BM, Laor E, et al. *Urology*. 1988;31:17–21. doi: 10.1016/0090-4295(88)90564-x.
9. Urachal remnant diseases: spectrum of CT and US findings. Yu JS, Kim KW, Lee HJ, et al. *Radiographics*. 2001;21:451–461. doi: 10.1148/radiographics.21.2.g01mr02451.
10. Laparoscopic excision of infected urachal cyst: illustration of technique. Dennis N, Kevin Y, Michael L. *Surg Pract*. 2010;14:77
11. Yukihiko Tatekawa, Surgical strategy of urachal remnants in children, *Journal of Surgical Case Reports*, Volume 2019, Issue 7, July 2019, rjz222, <https://doi.org/10.1093/jscr/rjz222>
12. Besarani D, Purdie CA, Townell NH. Recurrent urachal adenocarcinoma. *J Clin Pathol* 2003;56:882
13. Rhudd A, Moghul M, Nair G, McDonald J. Malignant transformation of a urachal cyst – a case report and literature review. *J Surg Case Rep* 2018:rjy056