

Festered Urachal Cyst in an Adult – An Odd Version

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Abstract

Background: Urachal anomalies are rare and result from incomplete obliteration of the urachal remnant. We report a 37-year-old male who came with complaints of lower abdominal pain and burning micturition for the past 1 week, who is a known case of type 2 diabetes mellitus under medication. Had a history of incision and drainage for a left ischiorectal abscess and open reduction and internal fixation of the left hip joint. On Ultrasonography (USG) of the abdomen, a heterogeneous collection measuring 4 x 3 x 3 cm was noted in the anterosuperior aspect of the urinary bladder, with inflammatory changes suggestive of infective etiology. He was managed with empirical antibiotics. Computer Tomography (CT) abdomen showed features suggestive of a urinary bladder wall abscess; USG-guided aspiration was done, and 40 ml of pus was drained and sent for culture; a sensitive antibiotic was started. His symptoms improved, and discharged. On follow-up, he had lower abdominal pain on and off and low-grade fever for 2 weeks, for which evaluated USG Abdomen showed Fatty liver/ Cystitis; appendix wall appeared thickened, measuring 4.2mm. There is an anechoic cystic collection of size 6.0 x 3.0 x 2.5 cm noted above the superior wall of the bladder with multiple septations and internal echoes suggestive of an infected urachal cyst. In Contrast Enhanced Computer Tomography (CECT) abdomen well defined heterogeneous collection of 4.7 x 2.9 x 2.7cm was noted in the perivesical space, with bilateral renal calculi. On cystoscopy, bilateral DJ stenting was done; with exploratory laparotomy, the perivesical abscess was drained, and tissue abutting the bladder was removed, along with an appendix. Due to its vague presentation, it required a high index of suspicion to make a timely diagnosis and appropriate management.

Keywords: Urachal anomaly, Urachal cyst, Perivesical abscess, Pyourachus, Urinary sepsis.

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INTRODUCTION

Urachal anomalies are embryological aberrations resulting from a persistent urachus. Mainly, it is a ductal remnant of the regressed allantois.^[1] which connects the umbilicus to the bladder, and its obliteration will give rise to the median umbilical ligament.^[2] Urachal anomalies are common in children, with an incidence of 1 in 5000 live births, which occurs due to urachal obliteration in early infancy.^[3] In adults, it mainly presents as a urachal cyst with infection. It presents as an umbilical discharge or mass. Pain, haematuria.^[4] Due to its non-specific symptoms, diagnosis is difficult; hence imaging plays a vital role in further management.

CASE REPORT

A 37-year-old male came with complaints of lower abdominal pain and burning micturition for the past 1 week; he is a known case of type 2 diabetes mellitus under medication. Had a history of incision and drainage for a left ischiorectal abscess and open reduction and internal fixation of the left hip joint for avascular necrosis. On evaluation, the USG abdomen and pelvis showed a heterogeneous collection of size 4x3x3 cm noted in the anterosuperior aspect of the urinary bladder with loss of fat plane and adjacent inflammatory changes suggestive of infective etiology [Figure 1]. Hence, he was managed with empirical antibiotics. CT abdomen showed features suggestive of

urinary bladder wall abscess/eosinophilic cystitis/inflammatory pseudotumour. He underwent USG-guided aspiration, and 40 ml of pus was drained and sent for culture; a sensitive antibiotic was started. His symptoms improved, and hence he was discharged.

On follow-up, he came with complaints of Lower abdominal pain on and off for 3 months and low-grade fever for 2 weeks, for which USG Abdomen was done, which showed Fatty liver/ Cystitis, and the appendix wall appeared thickened, measuring 4.2mm. There is an anechoic cystic collection of size 6.0 x 3.0 x 2.5 cm with a volume 24ml noted above the superior wall of the bladder, with multiple septations and internal echoes, suggestive of an infected urachal cyst. In Contrast Enhanced Computer Tomography (CECT) abdomen well defined heterogeneous collection of 4.7 x 2.9 x 2.7cm was noted in the perivesical space with loss of the fat plane, adjacent to the anterior and right lateral bladder wall; in delayed images, no

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evidence of communication between the bladder and the collection was seen, and bilateral renal calculi were noted [Figure 2].

On cystoscopy, bilateral DJ stenting was done, with exploratory laparotomy, perivesicular abscess drained and tissue abutting the bladder was removed [Figure 3], along with the appendix and sent for histopathology examination (HPE). HPE showed fibrocollagenous and granulation tissues infiltrated by chronic inflammatory cells composed of lymphocytes, sheets of foamy histiocytes, and foreign body granuloma are seen with skeletal muscle in occasional areas [Figure 4].



Figure 1: USG – Abdomen and pelvis: heterogeneous collection noted in the anterosuperior aspect of the urinary bladder.

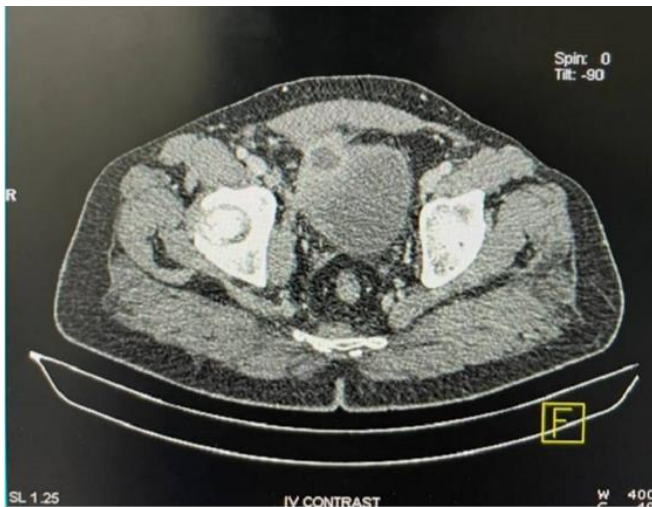


Figure 2: CECT abdomen – Heterogeneous collection in the perivesical space.

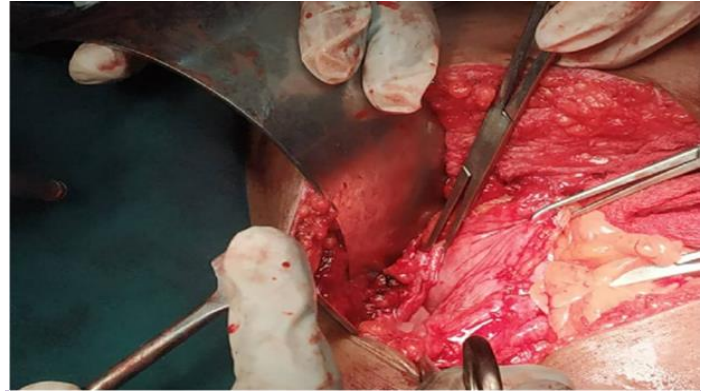


Figure 3: Intra-op perivesical abscess drained.

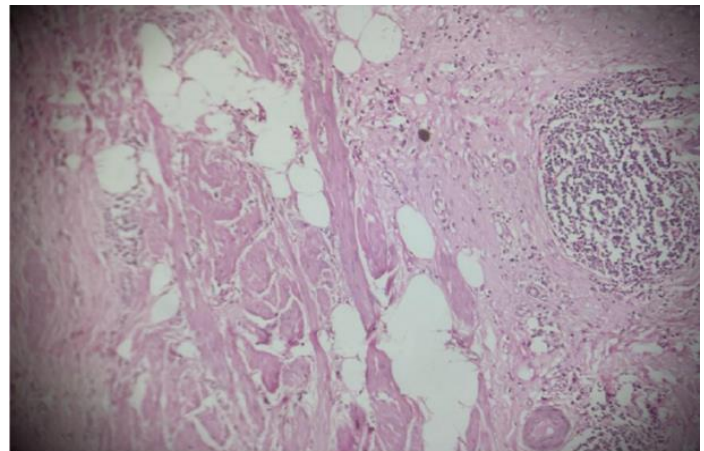


Figure 4: HPE showed fibrocollagenous and granulation tissue, infiltrated by chronic inflammatory cells.

DISCUSSION

The urachus is a midline structure arising from the anterior aspect of the fetal bladder, which in turn is derived from the ventral part of the urogenital sinus. During the later part of fetal life, the urachus is progressively obliterated and is replaced by a fibrous tract.^[5] Urachal abnormalities are 1st described by Cabriolus,^[6] they are PATENT URACHUS: entire tubular structure fails to close. A URACHAL CYST occurs when both the proximal and distal portions of the urachus obliterate, leaving a cystic cavity in the middle. URACHAL SINUS, which drains proximally into the umbilicus. VESICO-URACHAL DIVERTICULUM, where distal communication to the bladder persists. ALTERNATING SINUS, which can drain to either the bladder or umbilicus.^[7]

Urachal cysts are rare and more common in males. Become symptomatic when complicated, such as infection, intracystic bleeding, intraperitoneal rupture, bowel fistula, or malignancy. The innermost layer of the urachus is mainly transition cells; adenocarcinoma is the predominant histology type, mostly mucinous, due to metaplasia arising from chronic inflammation.^[8]

A Triad of a tender midline infraumbilical mass, umbilical discharge and sepsis should raise suspicion of urachal cyst infection. Imaging is the main modality for diagnosis. USG reveal hypoechoic internal echoes within an infected cyst and is used for guided diagnostic aspiration. CT shows a

homogeneous lesion in the prevesical space.

The optimal management of urachal cysts is not standardized. Earlier single-staged procedure with appropriate antibiotic therapy for the infected urachal cyst. Yoo et al. suggested a two-staged procedure involving initial incision and drainage, followed by later excision of the urachal remnant.^[9] In our case, we adopted a staged management plan. Some of the complications of urachal cyst excision include wound infection, sepsis, fistula formation, and urinary leakage.

CONCLUSION

Urachal anomalies are due to their heterogeneous presentation and require a high index of suspicion to make a timely diagnosis and appropriate management. Surgical excision is preferred due to the high recurrence rate and malignant changes. Nowadays, Laparoscopic excision is an ideal approach for unenviable occurrences.

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There are no conflicts of interest.

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