

Patent Urachus with Stone in Adult Male: A Rare Case Report

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ABSTRACT

The urachus is a fibrous remnant of the allantois, a canal that drains the urinary bladder of the fetus that joins and runs within the umbilical cord. The fibrous remnant lies in the space of Retzius, between the transverse fascia anteriorly and the peritoneum posteriorly. Failure of the inside of the urachus to be filled in leaves the urachus open, and 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. We are reporting here a case of a patent urachus containing calculus in a 45-year-old male patient, which is an extremely rare finding. The patient underwent exploratory laparotomy. Post-operative recovery of the patient was uneventful. This case was unusual in that the urachus contained a calculus, the patient was a young man who had never before shown any signs or symptoms of the condition or lower urinary track obstruction before this attack, and the calculus was near the vesical end of patent urachus.

Keywords: Adult male, Patent urachus, Urachul calculus.

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INTRODUCTION

The urachus is a fibrous remnant of the allantois, a canal that drains the urinary bladder of the fetus that joins and runs within the umbilical cord. The fibrous remnant lies in the space of Retzius, between the transverse fascia anteriorly and the peritoneum posteriorly. 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}

We are reporting here a case of a patent urachus containing a calculus in a 45-year-old male patient, which is an extremely rare case.

CASE DESCRIPTION

A 45-year-old male was admitted with lower abdominal pain. Pain was dull aching, mild to moderate in intensity, and nonradiating. There was no history of any urinary symptoms in the past.

The umbilicus appeared normal on inspection. On palpation, a nontender retroumbilical induration was felt. There were no features suggestive of lower urinary track obstruction. There were no abdominal findings. MSU (midstream urine) examination, blood urea and electrolytes were normal. All other blood investigations were normal.

Since the patient had no discharge from umbilicus when he presented to us, urea estimation of the discharge was not possible. An umbilical sinogram was attempted, but it was not possible as the opening had sealed probably secondary to previous inflammation.

Ultrasonography of abdomen and pelvis showed retroumbilical tissue thickening with echogenic material in the center.

The diagnosis was a patent urachus confirmed by CT Scan (Fig. 1). A well-formed track was seen extending from skin to peritoneum and then extended inferiorly up to the bladder. Entire thick tissue with track measured 75 mm in length and 12 mm in thickness.³ Intravenous pyelogram showed that there was no other stone or any abnormality in the urinary tract.

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The patient underwent exploratory laparotomy. Intraoperatively, a patent urachus was seen extending from umbilicus to dome of bladder. A rare finding in this case was that a calculus of size 8 mm was seen in the urachus, 5 mm away from bladder. The whole track along with a cuff of bladder was excised and bladder closed in two layers^{1,4} as shown in Figures 2 and 3. Foley's catheter was kept *in situ* for 48 hours. The patient's post-operative recovery was uneventful. He was discharged on eighth post-operative day.

Histopathology report was suggestive of a patent urachus.

Written consent was obtained from the patient to use his data and images for publication only.

DISCUSSION

Patent urachus is a congenital anomaly, presenting itself either in infancy due to a widely patent track or posterior urethral valve or in elderly, secondary to lower urinary track obstruction as in benign hyperplasia of prostate.¹ Occasionally one encounters a young patient presenting with pus discharge from umbilicus or urine discharge secondary to either stricture urethra or a lower urinary track calculus. However, our patient was a young adult complaining of lower abdominal pain without any other urinary complaint, which is a rare presentation.

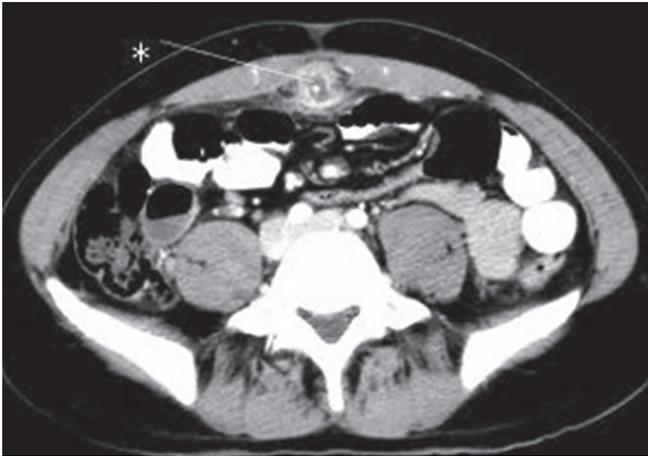


Fig. 1: A well-formed track was seen with the stone marked as * extending from skin to peritoneum



Fig. 2: Intraoperative picture of patent urachus attached to the dome of the bladder, with the calculus seen inside the urachus

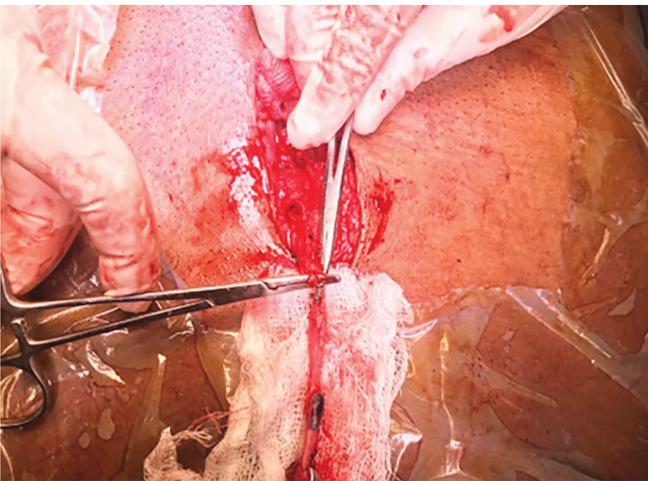


Fig. 3: Excised specimen of urachus with calculus which has been removed

Calculus is also known to be seen in urachal remnant. Most reported cases are, however, seen in urachal cysts,⁶ urachal xanthogranuloma,⁵ or vesicourachal diverticulum.⁷ Only one case of a patient with patent urachus passing a calculus from umbilicus has been reported 17 years ago.² That case reported a calculus located at the umbilical end of urachus in a 22-year-old male, as opposed to our case where it was present near the bladder. The diagnosis is confirmed by the demonstration of the fluid-filled canal on longitudinal ultrasound or filling with contrast medium on retrograde fistulogram or voiding cystourethrography (VCUG).¹

This case was unusual in that the urachus contained a calculus, the patient was a young man who had never before shown any signs or symptoms of the condition or lower urinary track obstruction before this attack, and the calculus was near the vesical end of patent urachus.

CONCLUSION

This case reports a calculus in patent urachus forms secondary to stasis and infection. Treatment is no different from that of patent urachus; that is, complete excision of the urachal tract along with a cuff of bladder, which can be done either by open surgery or a laparoendoscopic approach.

REFERENCES

1. Walsh PC, Retik AB, Vaughan ED, et al. *Campbell's Urology*, 8th ed., Philadelphia: W.B. Saunders; 2002.
2. Diehl K. A rare case of urachal calculus. *Br J Urol* 1991;67:327–328. DOI: 10.1111/j.1464-410X.1991.tb15147.x.
3. Cilento BG Jr, Bauer SB, Retik AB, et al. Urachal Anomalies: defining the best diagnostic modalities. *Urol* 1998;52:120–122. DOI: 10.1016/S0090-4295(98)00161-7.
4. Luchtman M, Rahav S, Zer M, et al. Management of urachal anomalies in children and adults. *Urol* 1993;42(4):426–430. DOI: 10.1016/0090-4295(93)90375-K.
5. Takeuchi M. A case of urachal xanthogranuloma containing a calculus: CT and MRI findings. *Eur J Radiol* 2004;49(3):107–109.
6. Kontogeorgos I, Kokotas N. Congenital abnormalities of the urachus: *International Urology and Nephrology*. 1977;9:309–312. DOI: 10.1007/bf02081947.
7. Ansari MS, Hemal AK. A Rare Case of Urachovesical Calculus: A Diagnostic Dilemma and Endo-Laparoscopic Management. *J Laparoendosc Adv Surg Tech* 2002;12(4):281–283. DOI: 10.1089/109264202760268087.