




Infected patent urachus in a young male: Primary care perspective

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ABSTRACT

Abdominal pain is a common presenting complaint in a primary care setting. Umbilical discharge secondary to umbilical anomalies is usually diagnosed in children and is rare in adults. This case highlights the possibilities of umbilical anomalies as causes of undifferentiated abdominal pain and umbilical discharge in adults. A 24-year-old male presented with a recurrent history of undifferentiated lower abdominal pain and umbilical discharge but was not diagnosed appropriately, leading to multiple visits to general practitioners and emergency departments for four years. An abdominal ultrasound was done, which revealed a hypoechoic tubular structure at the midline of the abdomen. A diagnosis of patent urachus was made and he was then referred to the surgical team for excision of the patent urachus.

Keywords: abdominal pain, umbilicus, urachus

INTRODUCTION

Urachal anomalies are rare in adults and usually diagnosed in children. The urachus is a fibrous tube extending from the umbilicus to the anterosuperior bladder dome that usually obliterates at week 12 of gestation, becoming the median umbilical ligament [1]. Failure of obliteration of this channel causes the urachal anomalies. There are four types of urachal anomalies: patent urachus, umbilical-urachal sinus, urachal cyst, and vesico-urachal diverticulum. Among this, urachal cysts account for up to 54% of urachal remnant anomalies [1]. The classification depends on the level of persistence of the embryonic urachal remnants between the urinary bladder and the umbilicus [1]. Patients with persistent urachal remnants may be asymptomatic, or they can present with lower abdominal or urinary tract symptoms and develop complications as well [1]. A similar case presented with abdominal pain but with a purulent and cheesy discharge. The final diagnosis was an infected urachal cyst, and surgical intervention was done [2].

CASE REPORT

A 24-year-old male presented with on-and-off abdominal pain and umbilical discharge for four years. The abdominal pain was described as vague and localized to the umbilical region. The umbilical discharge was serous and sometimes mixed with blood, up to three to four times per month. He sought multiple treatments for the abdominal pain, including multiple private practitioners as well as the green zone of emergency department, and was treated with antibiotics, only for it to recur again a few months later. The last visit he had for

the complaints prior to our first meeting was a year ago. He was treated for umbilical folliculitis and was discharged with antibiotics. He denied fever, hematuria, nausea, vomiting, gastritis symptoms, or prior trauma to the abdominal region. Other systemic symptoms were unremarkable. He had no prior medical illness or previous surgery. He had done an oesophagogastroduodenoscopy (OGDS) a year prior for functional dyspepsia. The result revealed a positive *H.pylori*, which was successfully eradicated. He had no drug allergies and was not a smoker.

On physical examination, he was afebrile, and his vital signs were normal. The abdomen was soft and there was no guarding, but there was tenderness on deep palpation at the umbilical region. The umbilical was inverted and erythematous. Upon pressing on the umbilical region, there was presence of non-foul-smelling serous discharge. Bowel sound was normal.

Laboratory data revealed a normal full blood count. His liver function and kidney function were also normal. An abdominal ultrasound was done and revealed a hypoechoic tubular structure extending from the midline of the abdomen near the umbilicus, towards the anterosuperior part of the urinary bladder. However, the connection between this structure and urinary bladder is not well seen. No intralesional vascularity. No focal collection seen surrounding the umbilicus. Liver, spleen and kidneys were normal. Differentials for findings include a patent urachus or umbilical, urachal sinus and prominent median umbilical ligament. The patient was referred to the surgical team, and he was planned for diagnostic laparotomy and excision of patent urachus.

Figure 1 shows inverted umbilicus with surrounding redness. Presence of serous discharge upon pressing on the umbilicus.



Figure 1. Inverted umbilicus with surrounding redness. Presence of serous discharge upon pressing on umbilicus (reprinted with permission of the patient)



Figure 2. Ultrasound abdomen showing hypoechoic tubular structure extending from midline of abdomen near umbilicus towards anterosuperior part of urinary bladder (reprinted with permission of the patient)

Figure 2 depicts ultrasound abdomen showing hypoechoic tubular structure extending from midline of abdomen near umbilicus towards anterosuperior part of urinary bladder.

DISCUSSION

Patent urachal sinus is a rare diagnosis in adults, as opposed to the pediatric age group. As it was usually presented with vague abdominal pain, patient is usually misdiagnosed and did not receive the appropriate referral in time. Presentation of urachal remnants differed in children and adults. 43% of children presented with umbilical discharge, while in adults, 50% of patients presented with hematuria. If found in childhood, it should be excised early on to prevent problems in adulthood, such as urachal carcinoma [3].

Presentations of urachal pathologies are usually non-specific, which makes the diagnosis difficult. Patent urachal pathologies usually present with abdominal pain, umbilical discharge, tenderness, erythema, or mass within the umbilicus [2]. Urachal anomalies can also present with more acute presentation such as umbilical abscess or peritonitis [4, 5]. Similar non-acute presentations were found in our case. The differential diagnosis of an umbilical mass should include hematoma, abscess, umbilical hernia, urachal carcinoma and tumors of the abdominal wall [2].

The patient in our case had the usual presentation of abdominal pain and umbilical discharge, but because of the rarity of the diagnosis, he was not diagnosed and referred to the surgical team earlier on. He had more than two visits each year, and each time he was diagnosed with conditions such as umbilical folliculitis and non-specific abdominal pain. He was treated with multiple courses of antibiotics, but the condition did not much improve. He even had to undergo an OGDS for functional dyspepsia.

A similar case was published in which a young male was presented with umbilical discharge and initially diagnosed with a subcutaneous abscess. He underwent drainage and received an antimicrobial agent. Two years later, he presented again with periumbilical pain and was subsequently found to have an infected urachal remnant. A surgical lesion was performed [6].

Ultrasound can be helpful in diagnosing urachal anomalies, but the most important diagnostic workup is computerized tomography (CT). CT can reveal the type of urachal anomaly with a sufficient degree of accuracy [2]. As in the case of our patient, the diagnosis was established only after he was scheduled for an ultrasound of the abdomen because of the recurrent presentation of abdominal pain and umbilical discharge.

Early recognition and appropriate management of infected patent urachus in adults can lead to favorable outcomes. Delayed diagnosis or inadequate treatment may result in severe complications, including abscess formation, peritonitis, sepsis, or urachal carcinoma [4, 5, 7]. None of complications were present in our case yet. As for the modalities of treatment, antibiotic therapy followed by radical excision of urachal remnants using a laparoscopic approach is considered a safe and effective alternative to open surgery and also has a better cosmetic result [8-10].

CONCLUSIONS

This case highlights importance of considering diagnosis of patent urachus in patients presenting with seemingly undifferentiated but recurrent abdominal pain, especially in

those with umbilical discharge. It is important for the health care providers at primary care level to detect early and to refer them to the surgical team for further definitive management.

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