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Case Report

Chronic umbilical abscess secondary to a patent urachus in a 30 years male: a case report

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ABSTRACT

Urachus is epithelialized, fibromuscular remnant part connecting urinary bladder with umbilicus. Urachal anomalies present and progress differently in paediatric and adult population. They remain largely asymptomatic until infected. Clinical presentation may vary from simple discharge from umbilicus to intrabdominal abscess and peritonitis. We present a case of urachal sinus presenting as recurrent umbilical abscess. 30 years male presented with complaints of umbilical mass with pus discharge. He was evaluated clinically and radiologically. Ultrasound revealed a localized collection near umbilicus whereas CT scan revealed connection of that collection to a fibrous strand like structure approximately 10 cm extending from umbilicus to urinary bladder. An open exploration was done under regional anaesthesia and 20 ml of abscess drained with excision of tract by ligating near the bladder end. Local debridement was done near the umbilical area. Wound closed in layers. Post-op period was uneventful without any recurrence. urachal anamolies need a high index of suspicion in adults to intervene early and get better outcomes with less morbidity.

Keywords: Umbilical abscess, Urachal sinus, Urachal cyst

INTRODUCTION

Umbilicus is potentially a weak part in the anterior abdominal wall. Embryologically it represents neck of the bottle which consists of umbilical vessels, structures related to digestive and urinary system.[1]

Urachus extends from urinary bladder to umbilicus. It is obliterated in most of the people at the time of birth.[2] But the occurrence of various manifestations of reminant urachus is not uncommon. These are often misdiagnosed in adults due to myriad clinical presentations.[3] Most of them go unidentified until they are infected.

We encountered a case of chronic recurrent umbilical abscess which was secondary to infected patent urachus. We did an open approach to drain the abscess under regional anaesthesia and traced the abscess cavity by exploring in the midline to remove the entire tract.

CASE REPORT

A 30 years young male with normal secondary sexual characters came to the outpatient department with the complaints of pus discharge, swelling (Figure 1), pain and mild redness near the umbilical region. History of similar episodes in the past 3 months on and off for which he used over the counter medication prescribed by a local practitioner. He had fever episodes on and off. He had no associated burning micturition or hematuria.

Patient was conscious, coherent with good physical status and ECOG scale was 1. No history of surgical interventions in the past. On examination pus was draining out through a defect in the umbilical mass. Ultrasound abdomen was done which revealed collection of approximately 20 cc near the umbilical region in the subcutaneous plane. Routine laboratory investigations revealed leukocytosis of 18,000 and rest all parameters

were within normal range. He was started on injectable broad-spectrum antibiotics.

A CT abdomen was done which revealed a collection near the umbilicus with abscess cavity tapering into a tract extending in midline upto the urinary bladder approximately 10 cm in length preop cystoscopy was done which revealed an intact bladder wall without any inflammatory signs or diverticula. An open surgery was planned next day after the preop workup. A midline infra-umbilical incision was given. Umbilicus flap was raised and remnant abscess drained out (Figure 2). The cavity was traced along the midline which showed a sinus tract extending upto the urinary bladder (Figure 3).

Figure 1: Umbilical swelling with inflammatory signs.

Figure 2: Intraperitoneal extension of fistula tract.

Figure 3: Intraoperative picture showing 10 cm length tract with extension upto bladder.

But not opening into the bladder. Tract was ligated as close as possible near the bladder end. A bladder leak test was done after fibrous tract is cut which showed no leak. Fibrous tract was sent for histopathology which showed no evidence of malignancy. Post-operative period was uneventful and suture site healed well.

DISCUSSION

Urinary bladder develops from cloaca. It opens near the umbilicus anterosuperiorly. After its decent the apical part narrows and obliterates forming a epithelialized fibromuscular remnant also called as urachus. It travels in the extraperitoneal space. Histologically it has three layers: outer muscular, inner transitional and middle connective tissue layer.[4]

Remnant urachus can present as patent urachus, urachal cyst (if obliterated from both sides with middle part patent.), vesicourachal diverticula, and umbilical urachal sinus. Incidence is 1 in 5000 live births.[7] Though these can present at any age in children these can have a wide spectrum of presentation and are recognized early. These are diagnosed at a later stage in adults. Clinical spectrum of presentation may include umbilical discharge, abdominal mass, fever, erythema, pain, hematuria, urinary tract infection, peritonitis.[5] Chronic collection of mucinous secretions when superadded by infection may lead to urachal sinus abscess formation.[6]

In adults the main aspect is to differentiate between benign and malignant etiology. Even though the inner layer is transitional epithelium Adenocarcinoma is more common.[8] It may be justified as transitional epithelium may undergo metaplasia into columnar epithelium due to chronic inflammatory trigger.

Role of imaging is limited. An ultrasound may show collection with vague tract. A CT scan gives a detail picture of abscess and tract in relation to surrounding structures. Sometimes gas and stone formation may be present near the cavity.[9] A pre-operative cystoscopy can be done to look for patency near the bladder end or any bladder diverticula.

Surgical excision along with incision and drainage can be done. If bladder end is patent then cuff of bladder along with the tract need to be excised. If it presents as a large intraabdominal abscess preoperative percutaneous drainage of tract may be beneficial.[10] An open or laparoscopic approach can be used for excision of the tract. They may sometimes mimic an umbilical pilonidal sinus or incarcerated umbilical hernia.[11]

CONCLUSION

Urachal anamolies are often misdiagnosed due to atypical presentations. Lack of typical clinical and radiological findings combined with absence of definitive guidelines makes its evaluation in adults challenging task. Simple

drainage of abscess is not recommended due to high chance of recurrence. It can either be a two staged procedure of Incision and drainage followed by excision of tract or a single staged procedure.[12] In present case we have done a single staged procedure with closure of incision site which healed well and no recurrence was seen in follow-up. Pre-operative management is currently under standardized and there is a need for proper protocols to identify early and intervene to prevent complications.

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REFERENCES

1. Gleason JM, Bowlin PR, Bagli DJ, Lorenzo AJ, Hassouna T, Koyle MA, et al. A comprehensive review of pediatric urachal anomalies and predictive analysis for adult urachal adenocarcinoma. J Urol. 2015;193(2):632-6.
2. Venkat B, Kale S, Reddy SKBV, Govindaiah G, Mohammed IG, Panchal N. Look Before You Leap: Urachal Mass in Adults. World J Oncol. 2017;8(1):20-4.
3. Jayakumar S, Darlington D. Acute Presentation of Urachal Cyst: A Case Report. Cureus. 2020;12(5):8220.
4. Choi YJ, Kim JM, Ahn SY, Oh JT, Han SW, Lee JS. Urachal anomalies in children: a single center experience. Yonsei Med J. 2006;47(6):782-6.
5. Lee SH, Lee HI, Shin DG. Urachal cyst presenting with huge abscess formation in adults. J Korean Surg Soc. 2012;83(4):254-7.
6. Ekwueme KC, Parr NJ. Infected urachal cyst in an adult: a case report and review of the literature. Cases J. 2009;2:6422.
7. Cappele O, Sibert L, Descargues J, Delmas V, Grise P. A study of the anatomic features of the duct of the urachus. Surg Radiol Anat. 2001;23(4):229-35.
8. Mazzucchelli R, Scarpelli M, Montironi R. Mucinous adenocarcinoma with superficial stromal invasion and villous adenoma of urachal remnants: a case report. J Clin Pathol. 2003;56(6):465-7.
9. Villavicencio C, Adam SZ, Nikolaidis P, Yaghmai V, Miller FH. Imaging of the Urachus: Anomalies, Complications, and Mimics. Radiographics. 2016;36(7):2049-63.
10. Lee SH, Lee HI, Shin DG. Urachal cyst presenting with huge abscess formation in adults. J Korean Surg Soc. 2012;83(4):254-7.
11. Ash A, Gujral R, Raio C. Infected urachal cyst initially misdiagnosed as an incarcerated umbilical hernia. J Emerg Med. 2012;42(2):171-3.
12. Almas T, Khan MK, Fatima M, Nadeem F, Murad MF. Urachal Sinus Complicated by an Umbilical Abscess. Cureus. 2020;12(8):9527.

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