



## Fish bone perforation into a patent urachus mimicking urachal carcinoma: Case report

Abdullah B. Alanazi, Afrah M. Aldhowayan<sup>\*</sup>, Mousa M. Almuhanha, Abdulrahman S. Binjawhar, Abdulmajeed O. Althobity

Princess Nourah bint Abdulrahman University, College of medicine, Saudi Arabia

### ARTICLE INFO

#### Keywords:

Fish bone  
Foreign body ingestion  
Patent urachus  
Urachal carcinoma

### ABSTRACT

Ingestion of foreign body may induce complications such as perforation, impaction, or penetration. Diagnosis rarely made preoperatively due to clinical symptoms are usually nonspecific and can mimic other surgical conditions. A 69-year-old male presented to emergency department with vague abdominal pain for few days. Following a clinical evaluation and computed tomography scan of the abdomen, provisional diagnosis of urachal carcinoma was made. As the result of urachal excision with partial cystectomy including fishbone were resected, pathology revealed benign urothelium.

### 1. Introduction

Ingestion of fish bone foreign body is considered one of the most common clinical problems encountered in emergency departments.<sup>1</sup> The passage of a foreign body through the gastrointestinal tract can occur, and in some cases, it passes easily within an approximate period of one week.<sup>2</sup> Impaction, penetration, or perforation of the gastrointestinal tract is rare and occurring in less than 1% of patients.<sup>1-3</sup> The urachus is an embryonic remnant that results from not sealing off the channel between the bladder and umbilicus before birth. If there is abnormal persistence or failure either partial or complete of urachus obliteration it may cause several complications, such as infection and malignancy later in life.<sup>4</sup>

We report a case of 69-year-old male presented with fish bone perforation of the gastrointestinal tract, reaching to the patent urachus resulting in a clinical presentation mimicking urachal carcinoma.

### 2. Case report

#### 2.1. Case presentation

69-year-old male came to Emergency department complain of vague abdominal pain associated with dysuria nausea, vomiting and high-grade fever for 3 days, initial vital signs were unremarkable apart from temperature of 39.2, abdomen was mildly distended with mild tender umbilical and suprapubic tenderness, there was no palpable

mass.

Initial labs workup was significant for leukocytosis of 18 and inflammatory marker.

Other were within normal range.

Initial CT scan abdomen with contrast showed significant circumferential wall thickening of urinary bladder dome wall associated surrounding inflammatory changes and fat stranding, extending to anterior abdominal wall suggesting patent urachus duct with active infection, linear hyperdensity like structure at anterior aspect of urinary bladder, also at the dome of urinary bladder anterior aspect site of the urachus duct, there is focal mass measuring 3 × 4 × 1.6 cm, rising possibility of urachal carcinoma (Fig. 1).

Patient was admitted and started on broad spectrum antibiotic, full septic workup was sent and came to be negative.

Repeated CT abdomen showed redemonstration of supravascular fluid collection along the course of urachus, extending from urinary bladder dome to the umbilicus measuring 7 × 4 × 2.6 cm.

Again, noted within this collection linear radio dense object was noted, along with multiple abdominal and pelvic collection (Fig. 2).

The plan was to do CT guided drainage for supravascular and multiple abdominal collection which was done by intervention radiologist without complication.

Repeated Ct scan showed resolving of the collection along urachus with only residual inflammatory mass with foreign body inside it.

Following drainage, patient underwent check cystoscopy which was then unremarkable.

<sup>\*</sup> Corresponding author.

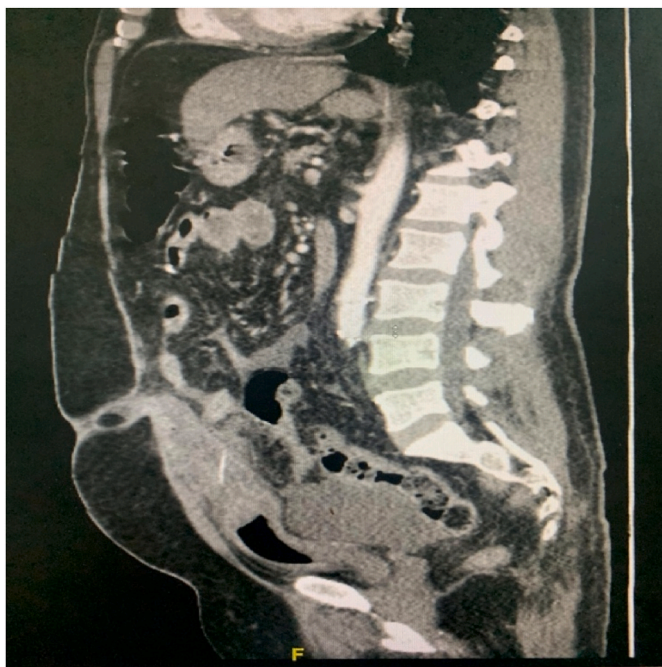
E-mail address: [aldhowayanafrah@gmail.com](mailto:aldhowayanafrah@gmail.com) (A.M. Aldhowayan).

<https://doi.org/10.1016/j.eucr.2022.102102>

Received 13 March 2022; Received in revised form 20 April 2022; Accepted 28 April 2022

Available online 3 May 2022

2214-4420/© 2022 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).



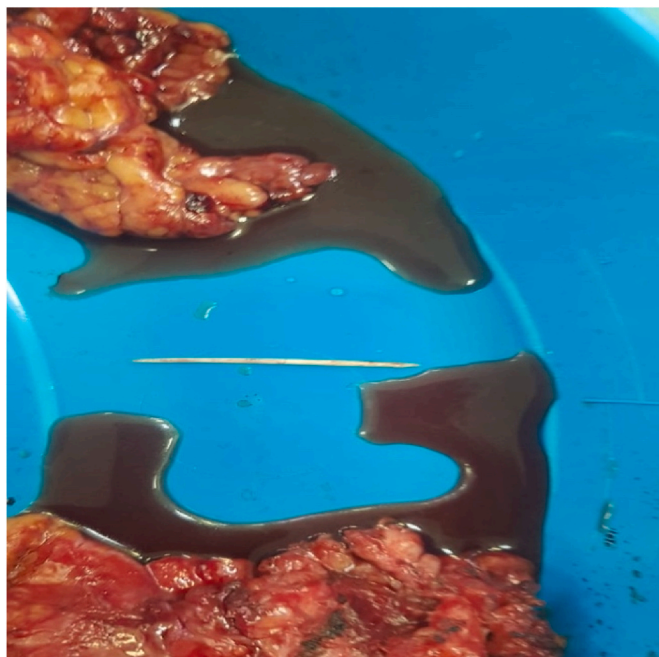
**Fig. 1.** CT abdomen with contrast showed circumferential wall thickening of urinary bladder dome with surrounding inflammatory changes and fat stranding, extending to anterior abdominal wall suggesting patent urachus duct with active infection and focal mass measuring  $3 \times 4 \times 1.6$  cm. In addition to linear hyperdensity like structure at anterior aspect of urinary bladder.



**Fig. 2.** Repeated CT abdomen demonstrate supravascular fluid collection along the urachus Extending from urinary bladder dome to the umbilicus measuring  $7 \times 4 \times 2.6$  cm. Linear radio dense object was noted within this collection, along with multiple abdominal and pelvic collection.

Then we plan to do exploratory laparotomy and urachus excision with partial cystectomy which was uneventful (Fig. 3).

Pathology revealed foreign body consistent with needle like structure and urachal mass with bladder cuff that positive for extensive chronic inflammatory reaction along with benign urothelium.



**Fig. 3.** Fibrotic urachus extending from dome of the bladder to the umbilicus which was excised en bloc along with the dome of the bladder mass opened at the back table, the foreign body had been identified inside it.

### 3. Discussion

Accidental foreign bodies ingestion among adult is usually related to food, especially a fish bone is the most common object leading to gastrointestinal tract perforations in less than 1% of cases.<sup>2</sup> Foreign bodies perforation can occur in all segments of the gastrointestinal tract. However, previous reported case demonstrates the ileum is the common site of perforation.<sup>3</sup> Also, it may perforate through a hernia sac, Meckel's diverticulum or the appendix.<sup>1</sup> In Our case the presence of foreign body in the patent urachus. The clinical presentations vary among the cases, ranging from acute or subacute to chronic including bowel obstruction, abdominal abscess or masses or peritonitis.<sup>3</sup> Only a few cases have been reported of abdominal wall abscess due to fish bone ingestion.<sup>2</sup> Majority of patient denied history of foreign bodies ingestion that gives a clinical history might not be helpful in diagnosis.<sup>2</sup> Therefore, the medical history and clinical presentation not enough to provide the information that suggestive of fish bone ingestion.<sup>2</sup> A plain radiography is limited in detecting fish bone.<sup>3</sup> While a computed tomography (CT) with Contrast gives the ability to identify a foreign body, which most of the cases reported a linear hyperdense material revealed in (CT) contrast with evidence of inflammatory lesion.<sup>2</sup> In our case, abdominal (CT) with contrast represent linear hyperdense like structure at anterior dome of urinary bladder involving the urachus duct with focal mass, with inflammatory surrounding changes and adjacent of fat with suspicious of malignancy. The differentiation between urachal abscess and carcinoma is not possible by imaging. Thus, less than 5% represent malignant urachal tumors of the bladder cancers and the commonest adenocarcinoma (90%).<sup>4</sup> The management of these cases varies depends on the site of ingested body, signs, and symptoms of the patients in addition to the complications either by starting with conservative management in all asymptomatic patient until the object passes out the body, or by laparoscopic exploration<sup>2</sup> or by laparotomy.<sup>5</sup> For our case, exploratory laparotomy decided based on (CT) imaging with urachus excision with partial cystectomy.

In conclusion, ingestion of foreign bodies is a common clinical problem. However, Diagnosis of perforation by fish bones is not common and challenging should always be consider in most cases with acute

abdominal symptoms such as acute onset of peritonitis signs, patient's dietary history with an emphasis on fish, and image evidence of abdominal CT. the factors affecting clinical decisions include the nature of perforation, the patient's overall health condition, and the timing of diagnosis. To the best of our knowledge, no previous cases have been published that described the presence of foreign body in the remnant urachus.

## References

1. Mutlu A, Uysal E, Ulusoy L, Duran C, Selamoglu D. A fish bone causing ileal perforation in the terminal ileum. *Turkish J Trauma Emerg Surg.* 2012;18(1):89–91.
2. Kuwahara K, Mokuno Y, Matsubara H, Kaneko H, Shamoto M, Iyomasa S. Development of an abdominal wall abscess caused by fish bone ingestion: a case report. *J Med Case Rep.* 2019;13(1).
3. Kuo C. Medical treatment for a fish bone-induced ileal micro-perforation: a case report. *World J Gastroenterol.* 2012;18(41):5994.
4. Ninitas P, Anselmo M, Silva A, Ferreira A, Santos J. Urachal abscess mimicking malignant tumor: can imaging tell them apart? *Acta Radiologica Open.* 2019;8(6), 205846011985292.
5. Shahid F, Abdalla S, Elbakary T, Elfaki A, Ali S. Fish bone causing perforation of the intestine and Meckel's diverticulum. *Case Rep Surg.* 2020;2020:1–6.