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Back from the Bread: Delayed Presentation of an Ingested Foreign Body

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Abstract: Background: Foreign body ingestion is often uneventful and rarely requires surgical intervention. It can however become problematic, predominantly affecting the gastrointestinal tract or more rarely the genitourinary tract. Few cases of the latter have been described. Objective: The aim of this case report is to raise awareness of the potentially indolent presentation of foreign body ingestion resulting in urological complications. Method: We report a unique case of a forty year old presenting with suprapubic pain, urgency and frequency twenty years following inadvertent ingestion of a needle. Results: Following initial investigation for common causes of lower urinary tract symptoms, ultrasound and computer tomography located the needle within a perivesical cavity associated with the bladder dome. Attempted removal via laparoscopy and open approach was unsuccessful. The patient ultimately underwent robotic assisted laparoscopic partial cystectomy in order to excise the cavity and foreign body. Conclusion: Extra-luminal migration of foreign bodies from the gastrointestinal to the genitourinary tract is rare but should be considered as a differential for urological symptoms in difficult cases when the aetiology remains elusive. Access to radiological imaging remains vital to enabling verification of the diagnosis. Optimal management involves localisation and excision of the foreign body and any containing cavity or fistulae. This may require advanced techniques including intra-operative imaging and a robotic-assisted laparoscopic approach.

Keywords: Foreign Object, Cystitis, Partial Cystectomy, Robotic

1. Introduction

Foreign body ingestion predominantly affects children [1, 2], in adults it is associated with substance abuse or mental health conditions [3]. The majority of cases of foreign body ingestion remain uncomplicated, even sharp objects such as needles or toothpicks, and the object passes without significant sequelae [1, 4]. Where complications do occur these commonly involve the gastrointestinal tract, presenting as gastrointestinal perforation, obstruction, haemorrhage or abscess formation [5]. Higher rates of complications are associated with sharper objects and delayed diagnosis [6]. On review of the literature there are relatively few reports of complications from foreign body ingestion affecting the urological tract [7-11] and the average time interval from ingestion to presentation is less than 9 months [12]. We describe a case of an ingested needle presenting following a 20-year time interval with acute lower urinary tract symptoms.

2. Case Report

A 40-year-old female presented to her GP with new persisting suprapubic pain, urgency and frequency. She was otherwise fit and well with no previous medical or surgical history. On examination she was found to have mild suprapubic tenderness, no masses, normal external genitalia and bimanual vaginal examination.

Initial suspicion of a possible urinary tract infection was excluded on urinalysis which was unremarkable. A flexible cystoscopy showed normal urethra and bladder mucosa. Transvaginal ultrasound revealed a 51 x 46 x 41 mm heterogeneous mass with scanty vascularity at the supero-anterior aspect of the bladder, suspicious for a possible urachal cyst (Figure 1). A computed tomography (CT) with contrast was performed to characterise the lesion (Figure 2). This in turn revealed a 3cm fluid collection within a thickened and irregular cavity at the dome of the bladder with

no definite communication with the bladder lesion and stranding of the surrounding fat. Within the cavity were two 20mm linear metal artefacts.

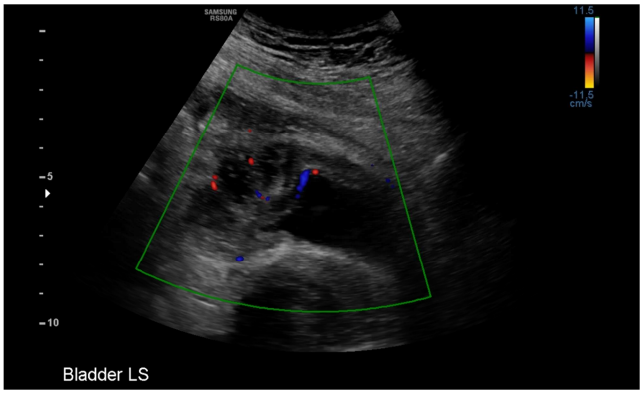

Figure 1. *Pelvic Ultrasound image of bladder.*

Figure 2. *Computed Tomography with contrast of abdomen and pelvis.*

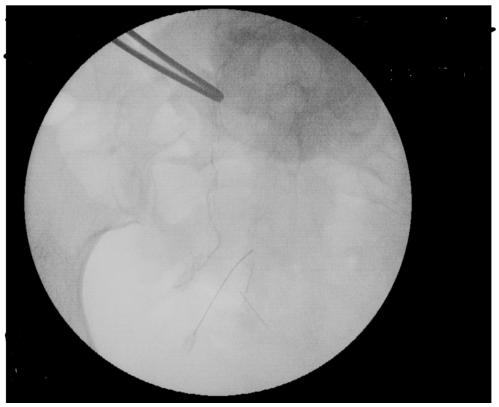

Figure 3. *Intra-operative radiograph.*

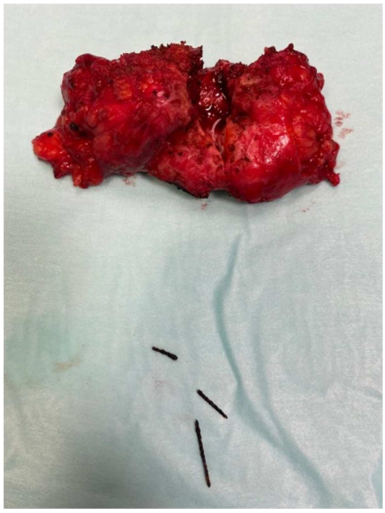

Figure 4. *Excised bladder dome.*

Figure 5. *Image of needle.*

On further questioning the patient recollected that at 20-years-old she had inadvertently swallowed a sewing needle whilst repairing her work trousers and simultaneously eating a crusty bread roll. This was confirmed at the time on an abdominal radiograph performed at her local emergency department. She was discharged within twenty-four hours following surgical review with expected spontaneous passage and advised to monitor her stool to confirm passage. She felt unable to engage practically with monitoring of her stool but had assumed the needle had passed. Despite the significant asymptomatic interval from ingestion, it was thought that the metal artefacts identified on CT could represent this needle.

Due to the severe cystitis type symptoms the decision was made to proceed surgically with excision of the cavity and removal of the foreign body. This was initially attempted laparoscopically with both urological and general surgical expertise. At laparoscopy the small bowel was found to be densely adherent to the inflammatory mass; this was safely separated from the mass however it was not possible to locate

the foreign body. This remained the case despite conversion to open with a Pfannenstiel incision and the utilisation of fluoroscopy (figure 3). The decision was made intraoperatively to initiate a course of antibiotics and arrange interval imaging.

The repeat CT scan showed partial resolution of the abscess cavity with persisting perivesical thickening and the presence of two foreign bodies. The patient was thus referred to our tertiary centre with the plan to take a robotic assisted laparoscopic approach. Here an isolated piece of omentum was found to be adherent to the bladder. This was excised with the hope that the foreign body would be found inside, however on closer inspection and dissection extracorporeally it was not possible to identify the cavity or foreign body. Within the context of the case and previous imaging it was possible to convince oneself of an enlargement of the dome. The intra-operative US probe was utilised to assess this; however, it was not possible to identify the cavity or foreign body. The decision was made to perform a partial cystectomy & excise the dome (Figure 4). Three flecks of metal were found within this specimen (Figure 5). The patient recovered well post operatively, the catheter was removed, and she was discharged home day two post operatively.

Both the omental specimen and dome were analysed histologically. Macroscopic and microscopic assessment of the omental specimen revealed mild chronic inflammation and focal foreign material with foreign body giant cell reaction. The excised dome measured 80 x 50 x 30 mm. Analysis revealed an acutely inflamed fissure tract on the outer aspect of the bladder wall. The bladder mucosa was normal, with the underlying lamina propria shows mild fibrosis and congestion only [Table 1].

Table 1. *Histology Report.*

HISTOLOGY REPORT
CLINICAL DETAILS:
Foreign body dome of bladder.
SPECIMEN (S):
A. Omental inflammatory mass
B. Dome of bladder
MACROSCOPIC DESCRIPTION:
A. Omental inflammatory mass - multiple pieces of fatty tissue, the largest measuring 70 x 30 x 5 mm, the smallest measuring 15 x 5 x 2 mm. In places the fatty tissue appears slightly fibrotic. Representative sections taken in A1-A6. A7 - another section from fat. Tissue remaining.
B. Urinary bladder - dome of bladder measuring 80 x 50 x 30 mm. A small amount of mucosal surface is seen with surrounding fatty tissue. On the outer surface there is a defect measuring 25 mm in length and 5 mm in diameter. This is probably a surgical incision. The specimen has been photographed. The site of the defect is inked black. The specimen is serially sliced. A focal area shows haemorrhage. No tumour or any other lesion is seen macroscopically. B1 and B2 - 2 large blocks, B2 includes the site of the defect, B3-B6 - small blocks from bladder, B4 includes surrounding fat. B7 - another section from the bladder including the site of defect. Tissue remaining.
MICROSCOPIC DESCRIPTION:
A. Sections show pieces of fatty tissue with focal lymphoid aggregates and mild fibrosis. In one of the pieces, there is amorphous eosinophilic material with a focal brownish tinge surrounded by histiocytic reaction and foreign body giant cells.
B. Sections from the bladder dome focally show a fissure at the outer aspect of the bladder wall which is surrounded by granulation tissue and fibrosis and contains numerous neutrophil polymorphs. There is deposition of black/dark grey material surrounded by foreign body giant cells. The bladder mucosa is normal, the underlying lamina propria shows mild fibrosis and congestion. There is no evidence of malignancy.
CONCLUSION:
A. Omental inflammatory mass - Fatty tissue with mild chronic inflammation and focal foreign material with foreign body giant cell reaction.
B. Dome of bladder - Acutely inflamed fissure tract on the outer aspect of the bladder dome. I understand it is caused by a foreign body stuck into the dome of the bladder described clinically.

3. Discussion

Cases of ingested foreign bodies migrating from the gastrointestinal to the urinary tract are documented. These commonly involve fistulae disease and as such present acutely with classical symptoms of colovesical or enterovesical fistula including pneumaturia, fecaluria and dysuria, and a relatively short time delay from ingestion to symptom onset [10, 11]. Extra-luminal migration affecting the urinary tract is rare. We found a case of ureteral obstruction secondary to peri-ureteral inflammation caused by toothpick which had migrated into the retroperitoneum causing extrinsic ureteral obstruction and hydronephrosis [13]. In this case transit to the bladder was thought to be secondary to ureteroscopy.

Here we hypothesise that the needle asymptomatically perforated through the small bowel migrating towards the bladder without forming a fistula tract or encroaching on the bladder mucosa. This is suggested by CT imaging, the dense adhesion of the small bowel to the bladder on initial laparoscopy, the normal bladder mucosa on flexible cystoscopy and histological analysis. Given the indolent presentation, symptom onset may have correlated to breaching of the lamina propria as the needle eroded outwards.

Due to the location of the cavity and foreign body which remained elusive even with an open approach there intra-operative imaging was utilised. Despite both fluoroscopy and ultra-sound confident localisation of the cavity and foreign body was not achieved. Metal detectors for localisation of metallic foreign bodies have been described in the literature [1, 14]. On reflection employing such a technique intra-operatively may have aided confident identification of the foreign body cavity to aid excision at the primary procedure.

From our brief review of the literature we did not identify

previous reports of robotic assisted laparoscopic management of retained ingested foreign bodies. It is likely that such management will become increasingly prevalent in line with the increasing popularity and success of this surgical approach [15]. It is likely that the robotic approach ultimately aided the rapid post-operative recovery and short time to discharge.

4. Conclusion

Extra-luminal migration of foreign bodies from the gastrointestinal to the genitourinary tract is rare. Given the variety of causes of lower urinary tract symptoms it is unlikely to sit high on a list of differentials but when aetiology remains elusive could be considered. Further, diagnosis of such pathology may be delayed by failure to recall ingestion and possible significant delay of symptom onset from ingestion, in this case 20 years. Radiological imaging lies central to enabling verification of the diagnosis. Optimal management involves localisation and excision of the foreign body and any containing cavity or fistulae. This may be performed endoluminally, where possible, or by laparoscopic open or even robotic assisted laparoscopically, as in this case.

References

[1] Wright C, Closson F. Updates in Pediatric Gastrointestinal Foreign Bodies. *Pediatric Clinics of North America.* 2013; 60 (5): 1221-1239. https://pubmed.ncbi.nlm.nih.gov/24093905/.

[2] Arana A, Hauser B, Hachimi-Idrissi S, et al. Management of ingested foreign bodies in childhood and review of the literature. *European Journal of Pediatrics*. 2001; 160: 468–72. https://pubmed.ncbi.nlm.nih.gov/11548183/.

[3] Pinero Madrona A, Fernández Hernández JA, Carrasco Prats M, Riquelme Riquelme J, Parrila Paricio P. Intestinal perforation by foreign bodies. *European Journal of Surgery.* 2000Apr; 166 (4): 307-9. https://pubmed.ncbi.nlm.nih.gov/10817327/.

[4] Henderson C, Engel J, Schlesinger P. Foreign Body Ingestion: Review and Suggested Guidelines for Management. *Endoscopy.* 1987; 19 (02): 68-71. https://pubmed.ncbi.nlm.nih.gov/3552641/.

[5] Ambe P, Weber SA, Schauer M, Knoefel WT. Swallowed foreign bodies in adults. *Deutsches Arztebatl International*. 2012; 109 (50): 869-875. https://pubmed.ncbi.nlm.nih.gov/23293675/.

[6] Kramer R, Lerner D, Lin T, Manfredi M, Shah M, Stephen T et al. Management of Ingested Foreign Bodies in Children. *Journal of Pediatric Gastroenterology & Nutrition.* 2015; 60 (4): 562-574. https://pubmed.ncbi.nlm.nih.gov/25611037/.

[7] Wykes W, Barker JR. Urethral discharge associated with ingested foreign body. *British medical journal.* 1978; 2 (6154): 1751. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1609978/.

[8] Misra S, Jain V, Ahmad F, Kumar R, Kichore N. Metallic sewing needle ingestion presenting as acute abdomen. *Nigerian journal of clinical practice.* 2013; 16 (4): 540-543. https://pubmed.ncbi.nlm.nih.gov/23974755/.

[9] Bhardwaj M, Hong S, Berkowitz D. Where did the problem stem from? An unusual case of hematemesis and hematuria *American Journal of Gastroenterology* 2019; 114: doi: 10.14309/01.ajg.0000597404.45137.92.

[10] Tombolini F, Lacetera V, Muzzonigro G. Enterovesical Fistula Caused by a Toothpick. *Case Reports in Urology.* 2015; 2015: 1-3. https://pubmed.ncbi.nlm.nih.gov/25838964/.

[11] Clements M, Hedrick T, Colen D, Schenkman N. Colovesical Fistula Caused by an Ingested Chicken Bone. *Urology.* 2013; 82 (6): e37-e38. https://pubmed.ncbi.nlm.nih.gov/24295267/.

[12] Zezos P, Oikonomou A, Souftas V, Gkotsis D, Pitiakoudis M, Kouklakis G. Endoscopic removal of a toothpick perforating the sigmoid colon and causing chronic abdominal pain: a case report. *Cases Journal.* 2009; 2 (1): 8469. https://pubmed.ncbi.nlm.nih.gov/19918434/.

[13] Garcia-Segui A, Bercowsky E, Gómez-Fernández I, Gibernau R, Gascón Mir M. Late migration of a toothpick into the bladder: initial presentation with urosepsis and hydronephrosis. *Archivos Espanoles de Urologia*. 2012; 65 (6): 626-9. https://pubmed.ncbi.nlm.nih.gov/22832645/.

[14] Fung B, Sweetser S, Song L, Tabibian J. Foreign object ingestion and esophageal food impaction: An update and review on endoscopic management. *World Journal of Gastrointestinal Endoscopy.* 2019; 11 (3): 174-192. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6425280/.

[15] Sheetz KH, Claflin J, Dimick JB. Trends in the Adoption of Robotic Surgery for Common Surgical Procedures. *JAMA Netw Open.* 2020; 3 (1): e1918911. https://pubmed.ncbi.nlm.nih.gov/3192255.