CASE REPORT

Transrectal impalement of an incense stick in a child presenting as foreign body in the urinary bladder

Rajkumar Singha Mahapatra, Vinod Priyadarshi, Vijay kumar Sarma Madduri, Dilip Kumar Pal

Department of Urology, Post Graduate Institute of Medical Education & Research, Kolkata, West Bengal, India

Correspondence to
Professor Dilip Kumar Pal,
drdkpal@yahoo.co.in

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SUMMARY

The diversity of objects that can be found in the urinary bladder often surpasses the urologist's imagination and mostly they are introduced per urethrally. Impalement injuries of the rectum with bladder perforation have been rarely reported. A high index of clinical suspicion is required to make the diagnosis of bladder perforation while assessing patients presenting with rectal impalement. In this interesting case, a young male child presented with haematuria and dysuria. He had a history of accidentally sitting on an agarbatti (Indian incense stick) stand while playing, followed by perianal pain which subsided spontaneously. Next day he presented with haematuria and dysuria. Clinical examination was inconclusive. On thorough investigation, a linear echogenic foreign body was found in the urinary bladder. The child was operated and the foreign body (incense stick) was removed. This is the first reported case of rectal impalement injury with incense stick, migrated to the urinary bladder in a 2-year-old child.

BACKGROUND

Foreign body (FB) in the urinary bladder is a well-described entity. However, transrectal impalement of an object subsequently getting lodged in the urinary bladder and presenting as haematuria and irritative voiding symptoms in a 2-year-old boy is a very rare presentation. The salient points in the management of such a case are highlighted and the relevant literature is discussed in this case report to increase awareness about such injury.

CASE PRESENTATION

A 2-year-old boy presented to the emergency department with a history of haematuria, frequency and dysuria for the past 4 days. Haematuria was gross, total, painful and not associated with any clots. There was no history of incontinence, fever, pneumaturia or pus discharge per urethra. There was no history of vomiting, constipation and abdominal distension. Further probing revealed that 4 days ago, the child accidentally sat on an agarbatti (Indian incense stick) stand while playing. He immediately had pain in the perianal region, which, however, subsided soon. As the child had no discomfort and the parents did not notice anything unusual, no medical advice was taken immediately. Next day, the child started having haematuria and dysuria. He was taken to a nearby hospital, where the child was put on conservative management with antibiotics and analgesics. When

there was no improvement even after 2 days, he was subsequently referred to our centre.

On presentation, the child was alert, conscious and playful. His vitals were stable. His abdomen was soft, non-tender with no organomegaly and normal bowel sounds. The external genitalia were normal. Digital rectal examination failed to reveal any abnormality and proctoscopy was not performed.

After taking the history and performing the physical examination, a working diagnosis of FB in the urinary bladder was made. The FB was presumed to be an agarbatti which had gone inside through the anus, perforated the rectal wall and became lodged in the urinary bladder.

After ruling out any significant gastrointestinal perforation, the patient was planned for endoscopic removal of the FB. On cystoscopy, however, the FB was lodged in the posterior wall of the urinary bladder and could not be extracted using forceps. Suprapubic cystotomy was performed and the FB was removed, which was a 7 cm long stick of agarbatti.

INVESTIGATIONS

Haemogram was normal, routine urine examination showed plenty of red blood cell and 10–12 pus cells/hpf. Culture was sterile. An X-ray of the kidney, ureter and bladder failed to reveal anything (figure 1). Ultrasonography of the abdomen

Figure 1 Ultrasonography showing a linear foreign body inside the bladder.

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Figure 2 Incense stick after retrieval.

showed a linear echogenic structure in the urinary bladder (figure 2).

TREATMENT

On cystoscopy, an FB (incense stick) was seen impacted in the posterior wall of the bladder. Transurethral retrieval was not possible. Suprapubic cystotomy was performed and the incense stick was removed.

OUTCOME AND FOLLOW-UP

Postoperative period was uneventful, urethral catheter was removed after 14 days. The patient remained dry and symptom free over the past 6 months of follow-up.

DISCUSSION

FB in the urinary bladder is a well-described entity and impalement injuries of the rectum also have been frequently reported. However, transrectal impalement of an object subsequently getting lodged in the urinary bladder and presenting with features of bladder perforation in a 2-year-old boy is a very rare presentation. FB in the urinary bladder due to migration from the gastrointestinal tract has been very rarely described. Once such case was reported by Garcia-Sequia *et al.*¹ Johnson² has reported the first case of rectal impalement with perforation of the urinary bladder. Following rectal impalement, combined rectal and bladder injuries remain a rare condition because of the deep bladder position within the bony pelvis.³ A literature review in pubmed.com using the keywords “foreign body urinary bladder” returned 1111 results of which none described a case in which the FB in the urinary bladder was due to transrectal impalement, although one case report describes the intravesical migration of intrauterine device.⁴ In most of the reported cases of rectal impalement injury causing bladder perforation, patients had definite symptoms of rectal injury with positive findings on rectal examination. In our case, the child had mild perianal pain after the accident and rectal examination was normal. There has been a wide variety of FBs of the urinary bladder reported on in the literature and the long list includes different types of needles, pins, ballpoint pens and caps, hair pins, forceps, metal and electric wires, straw, toothbrush, and the most incredible, a 45 cm decapitated snake^{5 6} and their unimaginable quality makes diagnosis and treatment a challenge for any physician. Radio-opaque substances are readily identified by X-ray examination. Ultrasonography is quiet helpful in diagnosing radiolucent substances as seen in our case.⁷ CT of the abdomen is the choice of investigation in rectal impalement injuries associated with features of peritonitis, other organ

injury or suspected rectovesical fistula.⁸ Cystoscopic examination is helpful in diagnosis and retrieval of FB from the urinary bladder.

The method of choice for FB extraction depends on its size, mobility, material and exact location, as well as on the medical instrumentation available and the experience of the urologist. Whenever possible, endoscopic removal of bladder FB is considered as the treatment of choice⁹ but sometimes open cystotomy or laparoscopic procedure is required for large or impacted objects.¹⁰ Roslan and Markuszewski¹¹ have described transvesical laparoendoscopic single site surgery to remove surgical materials penetrating the bladder. Jhang *et al.*¹² have suggested that cases of penetrating injury with a radiolucent object may warrant primary open exploration and FB removal owing to the inherent difficulties in diagnosis and endoscopic treatment of such objects. In our case, cystoscopic removal of the FB with forceps was tried, but manipulation and retrieval of the impacted stick in a small capacity bladder was difficult. So, cystotomy and retrieval was performed.

Transrectal impalement of an object subsequently getting lodged in the urinary bladder is doomed to have complications. Depending on how the impalement has occurred, it is possible to predict the organs likely to be involved. Immediate injury may lead to perforation of the rectum, bladder or peritoneum, which may need urgent exploration and faecal diversion. Missed FBs inside the urinary bladder can cause serious complication such as stone formation or internal fistula formation leading to urinary or faecal incontinence.¹³ In our case, the patient did not have any symptoms of rectal injury and the FB was radiolucent in nature. So, a high index of suspicion is needed to diagnose and avoid serious complications.

Learning points

- ▶ In cases of rectal impalement, the physical findings do not always correlate with the presence of internal lesion.
- ▶ A high index of clinical suspicion is required to make the diagnosis of such cases.
- ▶ Although endoscopic removal of bladder foreign body is considered as the treatment of choice, sometimes cystostomy or other procedures may be required.

Contributors The patient was admitted under and operated by DKP. RSM prepared the manuscript and VP did the literature search and revised the manuscript.

Competing interests None.

Patient consent Obtained.

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