CASE REPORT

Self-inflicted long complex urethro-vesical foreign body: is open surgery always needed?

Manish Garg, Manoj Kumar, Satyanarayan Sankhwar, Vishwajeet Singh

Department of Urology,
King George Medical
University, Lucknow,
Uttar Pradesh, India

Correspondence to

Dr Manish Garg,
dr_manugarg@yahoo.co.in

SUMMARY

In this case report, we describe our experience of a self-inflicted long complex urethrovesical foreign body managed suprapubically through the minimally invasive technique. A 21-year-old man with antipsychotic treatment for the past 10 years presented with a long electric cable wire in his bladder with the distal end in the penile urethra. He presented with symptoms of voiding difficulty and gross haematuria. An attempt of gentle retrieval of wire through the cystoscopic forceps was not successful due to a very complex knot of cable in the bladder. To avoid open surgery such as suprapubic cystotomy, the percutaneous minimally invasive approach was planned. Access to the bladder was achieved by the suprapubic puncture of the bladder, placement of a guide-wire and serial dilation of suprapubic tract. With the help of nephroscope, through suprapubic tract, the cable wire was retrieved antegradely without causing undue trauma to the bladder or urethra.

BACKGROUND

In the past few decades, incidence of foreign body in the lower urinary tract is increasing and many such cases have been reported in the literature. The present case is of a complex foreign body, that is, a long electric cable with complex knot inside the bladder with one of the free ends in the distal penile urethra. A review of the literature on long foreign bodies of bladder revealed that the majority of foreign bodies was managed by simple cystoscopic removal using forceps, while complex objects or those associated with significant injury to urethra required open removal such as suprapubic cystotomy or perineal urethrotomy. Electric and other wires introduced in more spacious bladder usually get curled up because of bladder contractions, sometimes get knotted and removal of such wires becomes a challenging issue. This case highlights that open techniques for foreign body removal can be avoided and hence the resulting morbidity can be decreased by using minimally invasive technique even for complex foreign objects.

CASE PRESENTATION

A 21-year-old man presented with obstructive lower urinary tract symptoms along with gross haematuria. Relatives informed that he inserted an electric wire into the urethra a day before and in an attempt to remove it, the distal end of wire slipped inside the meatus. He underwent medical examination at the emergency centre and then was referred to urological department.

On detailed history, the patient was found to have a psychiatric disorder with a history of multiple convulsions for which he was on antipsychotic and anticonvulsant treatment for past 10 years. The patient thought that there was some obstruction in his urethra, so to clear the passage, he inserted a wire into it. But after insertion, he was not able to take it out and developed difficulty in passing urine which was blood stained.

INVESTIGATIONS

On physical examination, the wire was palpated on the ventral side of the penile shaft in the penile and bulbar urethra, 4 cm proximal to the urethral meatus. Microscopic urinalysis revealed plenty of red blood cells, but no pus cells. Complete blood count and electrolyte profile were normal. There was no abnormality in renal function test.

A plain x-ray was suggestive of convoluted cord-like structure in the bladder with a tube-like opacity along the whole length of the urethra up to the distal penile urethra (figure 1).

TREATMENT

We planned for the minimally invasive technique to retrieve the foreign body (figure 2). With the patient under spinal anaesthesia, a small 10 F paediatric cystoscope was inserted into the urethra. Paediatric scope was used to avoid undue trauma to urethral mucosa. Red wire was visualised 4 cm proximal to external meatus. A gentle attempt to pull the wire with forceps failed. Undue force was not applied to pull the wire to prevent urethral injury. Cystoscope was advanced into the bladder along the side of the wire with great caution. Using a cystoscope as the optical device through the urethra, a puncture needle was introduced

Figure 1 Plain x-ray showing foreign body.

To cite: Garg M, Kumar M, Sankhwar S, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-009216

Figure 2 Removal of electric wire by ante grade technique.

suprapubically. Suprapubic tract was established with serial dilators over the guide-wire and a 30 F sheath was inserted. Nephroscope was inserted inside the bladder. Long red wire was visualised into the bladder which was complexly knotted. With the help of forceps, the knotted loop of wire was taken out suprapubically along with the whole length of wire which was present in the urethra (figures 3 and 4). A 20 Fr 3-way Foley catheter was placed as the supra-pubic catheter. Bladder irrigation was continued for 1 day till haematuria resolved.

OUTCOME AND FOLLOW-UP

Postoperative period was uneventful. The patient was discharged with an advice of psychiatric evaluation. Suprapubic catheter was removed after 1 week. He remained asymptomatic 1 month after surgery and the repeat pelvic sonogram showed no abnormality.

DISCUSSION

In the urinary tract, the bladder is the most common site of lodgement of foreign body, which is not an uncommon event in the present scenario. Usually, presenting symptoms is suprapubic

Figure 3 Electric wire with complex knot.

Figure 4 Stretched electric wire.

or urethral pain, frequency, urgency, voiding difficulty or haematuria.¹⁻³

It is anatomically very difficult to self-insert a long foreign object into the bladder through the urethra. Few cases have been described in the literature on long foreign bodies in the bladder. Mukerji⁴ discussed the insertion of 142 cm-long electrical cord by a 12-year-old girl into her bladder. A report of a 20-year-old man, who self-introduced 95 cm-long plastic tube in his urinary bladder, was described by Jani.⁵ In both these cases, foreign bodies in the bladder are removed by simple cystoscopy and biopsy forceps. Imai⁶ described the case of a 49-year-old Japanese man who had inserted a 140 cm vinyl tube in his bladder for masturbation. Open suprapubic cystostomy was done by the authors in this case because of the large size of the foreign body. Rafique⁷ had the opinion that while the endoscopic removal of long wire may be possible in some cases,⁸ open surgery is mostly required to reduce urethral trauma.

In the present case, the patient being a psychiatric patient, forcefully inserted a 75 cm-long electric wire in his urethra which reached up to the bladder and while pulling it back, it got severely knotted with distal end slipped into the penile urethra. Retrieval was not possible with retrograde cystoscopic forceps, so we opted to use the less invasive suprapubic technique in preference to open exposure. Ejstrud and Poulsen⁹ even used intravesical laparoscopy instruments to remove an electric wire. While, most of the intravesical foreign objects can be approached endoscopically and with minimum access, the best mode of management depends upon the nature of foreign body, site of lodgement, expertise of the surgeon and available instruments.

Learning points

- ▶ Vesico-urethral foreign body is often a challenging condition that requires prompt attention.
- ▶ Detailed history along with clinical examination is crucial for accurate diagnosis.
- ▶ The main aim of management is the removal of foreign objects with minimal trauma.
- ▶ Endoscopic removal should always be preferred, open surgery should be used as a last resort to avoid morbidity.
- ▶ Even large complex objects can be successfully removed using minimally invasive techniques if properly tackled.

Contributors All authors have made a significant contribution to the findings and methods in the paper and have read and approved the final draft.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Eckford SD, Persad RA, Brewster SF, *et al.* Intravesical foreign bodies: five-year review. *Br J Urol* 1992;69:41–5.
- 2 Singh I. Intravesical Cu-T emigration: an atypical and infrequent cause of vesical calculi. *Int Urol Nephrol* 2007;39:457–9.
- 3 Deka PM, Rajeev TP. Unusual cause of hematuria. *Urol Int* 2001;66:41–2.
- 4 Mukerji G, Rao AR, Hussein A, *et al.* Self introduction of foreign bodies into the urinary bladder. *J Endourol* 2004;18:123–5.
- 5 Jani B, Aldujaily S, Katiyar N. Case report of a very long foreign body in urinary bladder. *Internet J Urol* 2006;4.
- 6 Imai A, Suzuki Y, Hashimoto Y, *et al.* A very long foreign body in the bladder. *Adv Urol* 2011; 2011:323197 2.
- 7 Rafique M. Intravesical foreign bodies. Review and current management strategies. *Urol J* 2008;5:223–31.
- 8 Pal DK, Bag AK. Intravesical wire as a foreign body in the urinary bladder. *Int Braz J Urol* 2005;31:472–4.
- 9 Ejstrud P, Poulsen J. Laparoscopic removal of an electric wire from the bladder. *Br J Urol* 1997;80:338.

Copyright 2013 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Become a Fellow of BMJ Case Reports today and you can:

- Submit as many cases as you like
- Enjoy fast sympathetic peer review and rapid publication of accepted articles
- Access all the published articles
- Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow