

CASE REPORT

TRAUMA AND RECONSTRUCTIVE UROLOGY

Surgical technique for the delayed removal of superglue from the male urethra

Matthew James Young, Timothy Noblet, Stephanie J. Symons

Yorkshire Hospitals Trust, Wakefield, United Kingdom

Citation: Young MJ, Noblet T, Symons SJ. Surgical technique for the delayed removal of superglue from the male urethra. Cent European J Urol. 2016; 69: 290-292.

Article history

Submitted: April 18, 2016

Accepted: July 21, 2016

Published online: Aug. 19, 2016

The insertion of foreign bodies into the male urethra is not an uncommon urological presentation. Superglue is a material that can potentially cause significant complications if instilled into the urethra. We describe a successful case of delayed (six months) removal of superglue from a 39 year old male's urethra having failed to remove the material at initial presentation.

Corresponding author

Matthew James Young
Mid Yorkshire Hospitals Trust
Aberford Road
WF1 4DG Wakefield, UK
phone: +44 778 935 2360
mjyoung88@doctors.org.uk

Key Words: superglue ◊ delayed removal ◊ male urethra

CASE PRESENTATION

Insertion of foreign bodies into the male urethra is not an uncommon acute urological presentation and is widely discussed on non-medical Internet forums.

Knowledge of the properties of the foreign body inserted is crucial in order to plan appropriate surgery. Superglue is a material that has the potential to cause significant injury if instilled into the urethra. Despite this, only two reported cases exist in the literature describing successful surgical removal [1, 2]. There are no reports to our knowledge detailing the technique for the delayed removal of superglue from the male urethra.

A 39 year old male presented to our institution five days after instilling 20 millilitres of superglue into his urethra in November 2014. He had a significant history of penile mutilation secondary to mental health problems. At presentation he was

able to void with complete emptying and no dysuria. Brittle fragments of superglue were noted around his external urethral meatus at flexible cystoscopy. He then underwent an examination under anaesthetic; however a rigid cystoscope or guide-wire were unable to be passed into the patient's urethra. Following this failed procedure he was able to void fully and self discharged against medical advice.

Four months later he re-presented to our institution having developed dysuria, difficulties initiating micturition and oedematous skin around his urethral meatus. At this time he was still able to fully empty his bladder. He was listed for elective removal of superglue from his urethra.

He was taken to theatre 6 months after his initial presentation. Endoscopic surgery was attempted. One large fragment (measuring 30 mm) and two smaller fragments (17 mm and 5 mm) of superglue were identified within the bulbar urethra (Figures 1 & 2) using a 21Ch cystoscope.



Figure 1. The 3 fragments of superglue following removal from the urethra measuring 30 mm, 17 mm and 5 mm.

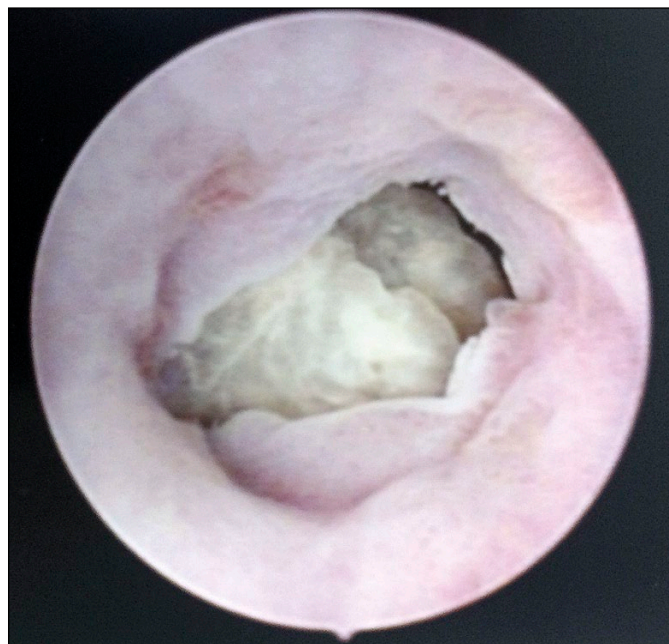


Figure 2. Fragments of superglue within the bulbar urethra visualised by 21Ch cystoscope.

The urethra was then dilated to 24Ch using urethral Sounds. An optical urethrotome could then be passed along the urethra to the level of the superglue within the bulbar urethra (Figure 2). An initial attempt was made to fragment the superglue using laser lithotripsy, at a setting of 0.6 joules, was ineffective. Attempts

were then made using endoscopic forceps to retrieve the fragments. Stent removal forceps were unable to gain a satisfactory purchase on the fragments. Cold cup biopsy forceps were successfully used to grasp the fragments and remove them from the urethra with minimal difficulty. The fragments were surprisingly compressible and not brittle, allowing a strong grasp using the cold cup forceps. No mucosal injury was noted following removal of the fragments. A rigid cystoscopy was performed following successful removal of the superglue; both ureteric orifices were seen and no mucosal lesion was identified.

He was seen six weeks post-operatively with a satisfactory urinary flow rate and a minimal post-void residual.

DISCUSSION

This case report highlights that superglue can be safely left in the urethra providing that the patient is able to void urine satisfactorily. Heberling et al. described a similar case where they were unable to initially remove the superglue endoscopically due to adherence to the urethral mucosa [2]. Their patient received an external urethrotomy to remove the adherent fragment of superglue despite the patient being able to void urine with no residual.

In our case, leaving the fragments in the urethra for six months had allowed the mucosa to completely shed the adherent layer from the urethral wall. The material had become less brittle and more compressible, making removal using cold cup biopsy forceps straightforward.

Superglue (cyanoacrylate) is widely used in surgical and commercial practice with favourable outcomes [3]. Its adhesive properties are due to condensation of cyanoacetate with formaldehyde leading to rapid polymerization to form a film [3]. Cyanoacrylate toxicity centres around respiratory conditions, from vapour, and contact dermatitis [3]. Cyanoacrylate is widely used in dental practice on oral mucous membranes, which has similar properties to urethral mucosa, without any significant complications [4]. There are no reports that support cyanoacrylate being carcinogenic.

We suggest that delayed removal of superglue is an acceptable course of action for a patient who is able to void urine with no residual. Endoscopic removal was straight forward and minimally invasive allowing the patient to make complete recovery.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

References

1. Turner WH. Superglue in the urethra. *Br J Urol.* 1990; 66: 217-218.
2. Heberling U, Fröhner M, Oehlschlager S, Wirth MP. Superglue in the Urethra: Surgical Treatment. *Urol Int.* 2016; 96: 119-121.
3. Leggat PA, Smith DR, Kedjarune U. Surgical applications of cyanoacrylate adhesive: a review of toxicity. *ANZ J Surg.* 2007; 77: 209-213.
4. Leggat PA, Kedjarune U, Smith DR. Toxicity of cyanoacrylate adhesives and their occupational impact on dental staff. *Industrial Health.* 2004; 42: 207-211. ■