Cystoscopic stent removal using a guidewire loop

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INTRODUCTION

Double J (DJ) stents are frequently used in urologic practice and are removed using a rigid or flexible cystoscope with a stent removal forceps or a foreign body forceps.\(^1\) We report here a technique for cystoscopic removal of the stent when the forceps breaks down and there is no other backup option available.

TECHNIQUE

While attempting to remove a stent from a patient under short general anesthesia, we realized that our stent removal forceps was not working. Its prongs would not open and a back-up forceps was not available. We then created a sling with a guidewire to remove the stent.

The guidewire was inserted from one channel of the cystoscopic bridge, a loop was created, \textit{ex vivo}, at the bladder end of the cystoscope and the tip of the wire was brought back from the other channel of the bridge \cite[Figures 1 and 2]{1}. The complete assembly of the wire loop with the cystoscope was then inserted into the bladder. The bladder end of the DJ stent was ensnared in the guidewire loop which was then pulled. This trapped the stent between the wire loop and the beak of the cystoscope sheath \cite[Figure 3]{3} and could be removed. In subsequent cases, a single channel bridge was found to work equally well. When a single channel bridge or pediatric cystoscope is used, the guide wire is passed in a routine fashion and then folded back with the remaining wire outside the sheath to create the loop. The loop can be made both with a stiff 0.035 guidewire or a hydrophilic glidewire. Any rigid cystoscopic sheath can be used; the smallest sheath used by us was 12 Fr. We have not attempted this technique for stent removal with a flexible cystoscope.

This technique has been tried in 15 patients at two centers. Of these, one was a 12-year-old pediatric patient. The stent could be removed in all the patients without any procedure-related complications.

DISCUSSION

Removal of the DJ stent is usually performed in the operation theater using a rigid cystoscope as flexible cystoscopy in an office setting is still not commonly available in India.\(^{2,3}\) We prefer to use anesthesia for stent removal as we believe a lot of patients complain of significant pain during rigid and flexible cystoscopy. A recent review by Loh-Doyle et al.\(^{4}\) has confirmed that 57% patients experienced moderate to severe pain during the procedure and the willingness to undergo the same removal technique was lowest for those

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Stent removal is often considered a minor procedure that is delegated to the junior member of the surgical team. Although it is the duty of the operating surgeon to check the instruments before the procedure is started, such situations can rarely arise when either the needed instrument is not available or does not work satisfactorily.

Other options in such a situation would be to use a ureteroscopy forceps or a stone basket. It is difficult to manage the long and thin ureteroscopy forceps through the cystoscope. The prongs of the ureteroscopic stone grasping forceps are small and thin and may have difficulty in grasping the stent. The dormia basket is a good option but may not be available in all the operating rooms and would add significantly to the cost of the procedure.

Guidewires are easily available and cheap. Making the loop to entrap the stent is easy and nontraumatic. This could be a good alternative in a situation when forceps are not available or not working.

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