**Abstract**

Insertion of double-J (DJ) stent is common in pediatric urology practice as an internal urinary diversion. The DJ stent may migrate proximally into the renal pelvis which is a rare complication. We used a wire lasso to ensnare DJ stent ste through the nephrostomy route using a rigid cystoscope to retrieve the upward migration of DJ stent in 7 years old boy with right vesico-ureteric junction obstruction that previously had a re-implantation of the right ureter. As a result, the DJ stent were safely retrieved with slightly hematuria that improved before 24 hours.

**Introduction**

Insertion of DJ stent is common in pediatric urology practice. A rare complication such as upward migration of DJ stent sometimes happens that cystoscopic retrieval may not be possible. In such cases ureteroscopy has to be used, however it is difficult to inserting the ureteroscope into the new re-implanted ureter. We report one post-operative cases of Leadbetter-Politano right ureter re-implantation due to vesico-ureteric junction obstruction with upward migration of DJ stent that were successfully retrieved by ensnaring the DJ stent using a wire “lasso” through nephrostomy route.

**Case report**

A 7-year-old boy underwent Leadbetter-Politano right ureteral re-implantation for right vesico-ureteric junction obstruction. The boy also has right nephroptomy since 1 year before. In later follow up on post-operative day 14, an abdominal x-ray showed that DJ stent was further migrated to the kidney and coiling in dilated right renal pelvis (Fig. 1). The problem that we faced is flexible ureteroscope equipment and grasping forceps is not available. And the only access that we have is the nephrostomy route with catheter size 12 F.

We plan to remove it with 11-F cystoscope and a lasso made from a DJ stent wire (include with DJ package) to ensnare it through nephrostomy route. To made a wire lasso, the wire is inserted through the working port, until the tip of a wire is coming out from the other side of the cystoscope and the length is long enough to make a loop of lasso. Then the tip of the wire is tucked between the telescope and the cystoscope sheet so that it forms a loop of lasso. Push and pull the wire to enlarge and make the lasso smaller. Before the cystoscope inserted through the nephrostomy route, make sure the wire lasso hides in the tip of cystoscope (Fig. 2).

Remove the nephrostomy catheter and insert the cystoscope through the nephrostomy route slowly and make sure we have a clear view along the nephrostomy track until we can identify the DJ. After the DJ stent was identified, push the wire to make a big loop of lasso surround the stent, then pull the wire slowly and lock on it. To make sure the DJ was ensnared, moved the cystoscope, if we see the rest of the stent is also moving following our cystoscope that is mean we already catch the stent and pull the cystoscope slowly with DJ within. We managed to take it in the first attempt (Fig. 3). The recovery was uneventful, there was a slight hematuria came from nephrostomy which cleared before 24 hours and patient discharge from hospital next day after procedure.

**Discussion**

Malfunction of the stent may occur due to obstruction, migration, fragmentation or erosion through the ureteral wall necessitating removal of stent. Management of a DJ stent migration especially in pediatric population still a challenging situation. Same principle of our technique also conducts by Ovalle et al. using a polypropylene loop to remove DJ trans-urethra. Although using polypropylene seem to be easier, but at that time we only think to use a wire. Same problem was reported by Anupam et al., they using semirigid bronchoscopic forceps through nephrostomy route with a fluoroscopic guidance in 2 cases of postoperative Anderson-Hynes pyeloplasty. Shin et al. also reported 37
successfully removed of DJ stent using a snare or basket through a 9-F nephrostomy route with fluoroscopic guidance, the successful rate in this procedure was 95%. Although our technique is not as simple as other technique mentioned before, but we have a superiority such as no exposure of radiation and the procedure was conducted with a clear view of the stent and the condition surround it. Our suggestion is, we should make a big loop of lasso as we can to increase the possibility ensnare the DJ in first attempt.

**Conclusion**

This technique can be a new option for removing upward migration of DJ stent through nephrostomy route especially for a limited facility such as the absence of flexible ureteroscope equipment and small size grasping forceps.

**References**

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