Double j stent modification and replacement to avoid secondary auxiliary procedure for its removal

By Dr Ankit Kayal

Firstly I would like to thank the endourology society and their members for providing the summer student scholarship and enabling the project to be carried out.

Dj stenting is the most commonly done procedure in routine clinical practice of urology in pre and post-operative patients for urinary diversion. This double J stent is used for short period of time around 48 hours to 7 days most of the time. And we have to do another procedure to remove double j stent. This is quite cumbersome. We want to make some modification in double j stent and some replacement in place of double j stent so an auxiliary procedure can be cut at least in female patients. This will be helpful and in benefit of patient to avoid another procedure to removal of DJ. As for just removal of stent patient has to go through OT preparation.

Female patients in which cystoscopic guided dj stenting is planned like post URSL. The string dj were used. We used silk thread for string but nylon, PDS and prolene can also be used. There no difference in UTI/ or irritative LUTS in use of thread material. We used 3-0 /4-0 thread. Many DJ stents with strings are available in market but due to more cost than simple stent we prefer to add string by ourselves. It takes hardly 2 minutes and cost effective. The string is attached to the stent and the string comes out of the urethra. Patients can void without discomfort or obstruction. When it is time to remove the stent, a gentle traction on the suture is sufficient to deliver it.

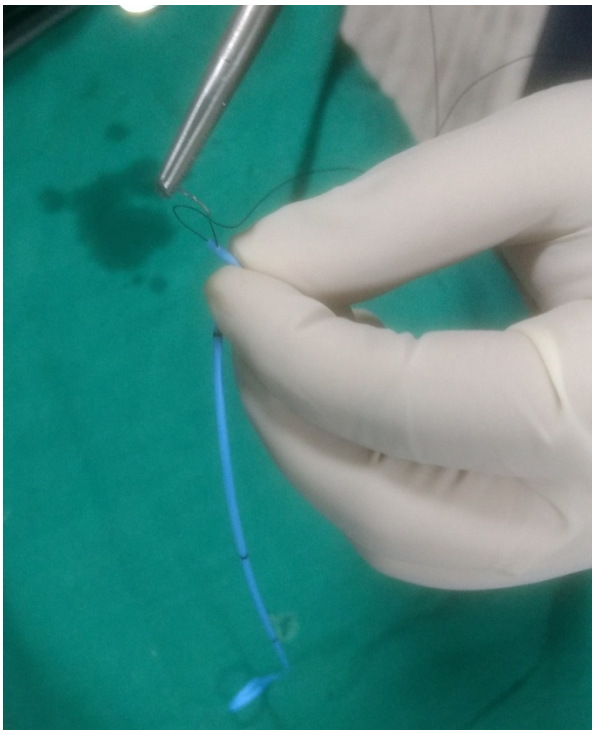

fig 1 Adding thread to DJ

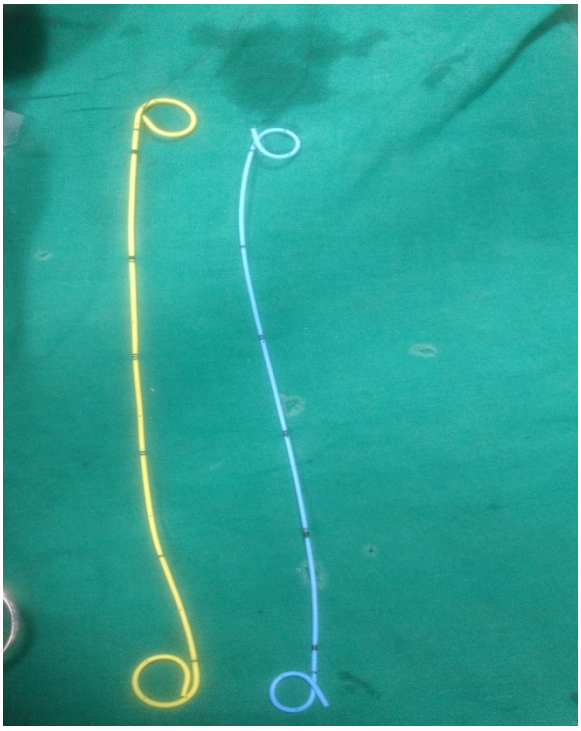

fig 2 DJ with strings at ending

fig 3 strings after DJ stenting

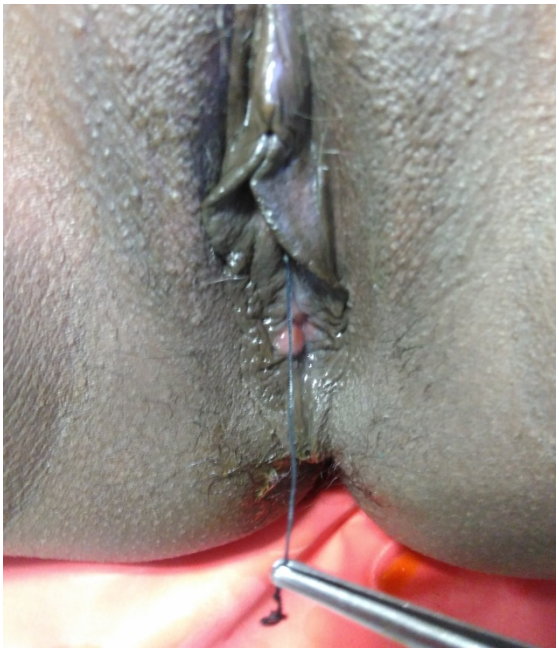

Fig 4 String at time of removal of DJ

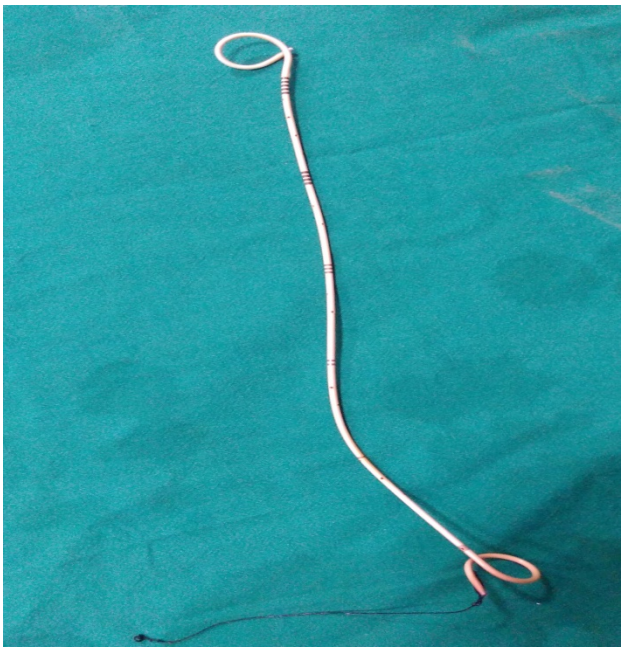

Fig 5 After removal of DJ with strings

In PCNL patients ureteric catheter was kept in situ instead of putting DJ stenting and it was fixed with Foley's catheter to avoid spillage of urine. And the ureteric catheter is removed along with Foley catheter after two days.

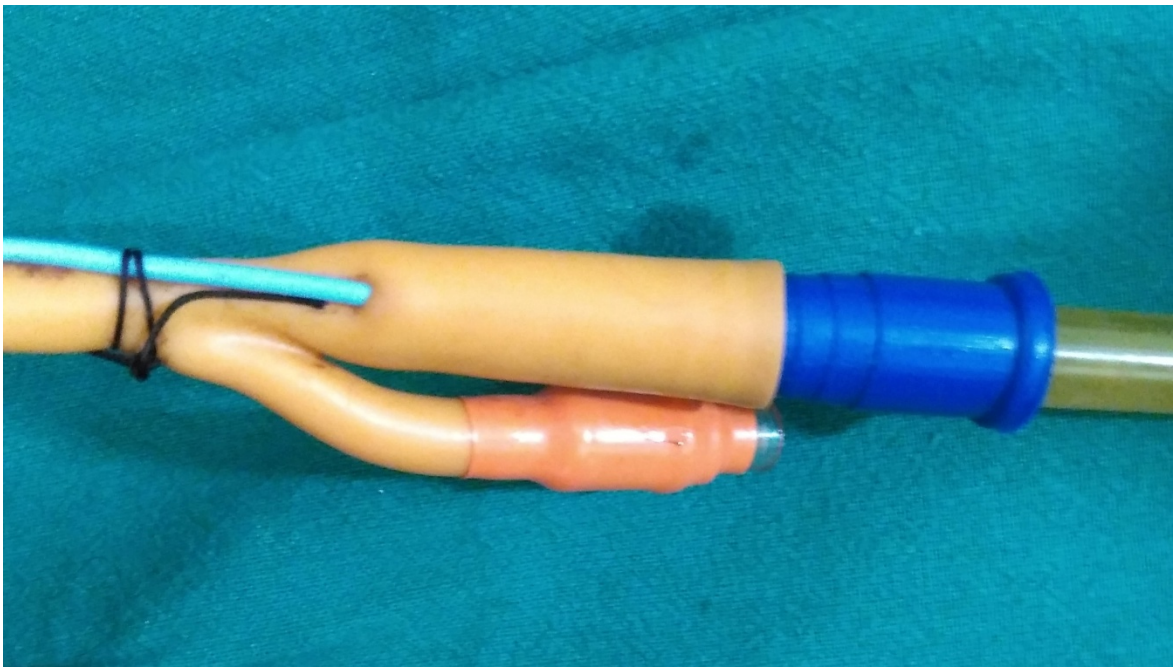

Fig 6 Fixation of ureteric catheter with Foley's catheter

Stents are also commonly placed before open surgical or laparoscopic procedures to help identify the ureters and prevent inadvertent ureteral injury. Instead of DJ stents in these patients ureteric catheter is kept as after completion of surgery no use of keeping stent.

For VVF Repair patients, we used mono J stent to allow other end to come out of urethra which is removed externally without use of cystoscopy.

Indication	No. of patients	Alternative Method to DJ
Post URSL	32	DJ with strings
Post PCNL	12	Ureteric catheter for two days
For ureteric identification In open / lap gynecological / surgical procedure	24	Ureteric catheter during operation
VVF repair	4	Mono J instead of DJ

These DJ removal procedures not necessarily required lithotomy position and can be performed in supine position. So these modifications might be advantageous in elderly patients, hip osteoarthritis, paralyzed patients also.

None of the patient complained of irritative LUTS, pain, dysuria related to thread.

During initial five to seven postoperative days patients were more concerned about the result of the surgery and their general health than their sexual performance. In fact, the majority of patients admitted that they had made no attempt at having sexual activity. So sexual score was not measured as it was not useful.

In case strings breaks and the stent doesn't come out we can remove it with help of cystoscopy but it does not happen in any of our cases

A visible thread also has advantage of not to forget removal of dj. As forgotten dj insitu is also big problem even after maintenance of data registry system.

The use of extraction strings may improve patient convenience, eliminate unnecessary decline in QoL from longer dwell time, and decrease costs to the

healthcare system as well as the patient. The benefits of these methods are the avoidance of both general anesthetic complications and unnecessary urethral instrumentation. An operative procedure with its attendant costs and risks is eliminated. This method likewise can be applied in female patients where there is need of indwelling stents.

In conclusion replacement of DJ and Double j stent modification is well tolerated with no complication. Due to abandoning fluoroscopy and cystoscopy, it saves operating time. The entire procedure is safe and convenient not only for urologist but also for patient and can be easily carried out even in outpatient department.