

Double J Stent Removal By Trained Operation Theater Nurse Under Topical Anesthesia in Female Patients

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ABSTRACT

Objective To document outcome of DJ stent removal by trained operation theater nurse under topical anesthesia in female patients.

Study design Descriptive study.

Place & Duration of study Department of Urology Jinnah Postgraduate Medical Center, Karachi from June 2015 to February 2016.

Methodology Female patients, for DJ stent removal, who did not give consent for the procedure to be performed by the male doctors, were included. Patients in whom DJ stent placement duration was more than 4 months with radiological evidence of encrustation and those in whom ureteric re-implantation done, were excluded. All double J Stents were removed by trained female senior theater nurse under supervision of consultant urologists. All operative and postoperative problems were recorded.

Results A total of 30 patients underwent DJ stent removal during the study period. Age of the patients ranged from 15 year to 55 year. Mean age was 27 year. Most common indication for DJ stent placement was obstructive renal stones in 36.6%. Out of the total two patients required general anesthesia and ureteroscopy for its removal. In one case there was encrustation around DJ stent and in other patient it was due to broken DJ stent. Minimal complications were noted in follow-up.

Conclusions It was safe to assign the task of DJ stent removal to the female nurse after adequate training. This produced was suited for female patients reluctant to have this procedure done by male doctors in a conservative society like Pakistan.

Key words DJ stent removal, Urologic procedure, Nurse- urology.

INTRODUCTION:

Double J stent placement is a commonly performed procedure in urology practice. It has become one of the most basic and valuable tools in urology.¹ Since its introduction in 1978, the double-J stents have become the gold standard for treating obstructed ureters.² Indwelling ureteral stents provide direct

drainage of the upper urinary tract to the bladder bypassing the obstruction.³ There are certain prophylactic and therapeutic indications for bilateral or unilateral double J stent placement like bilateral calculus obstruction, following lower ureteric re-implantation, malignant ureteral obstruction and after complicated uretero-rensoscopy.⁴ The oncological use of DJ stent is gradually increasing in patients with gynecological, urological and other pelvic malignancies, which lead to ureteric obstruction as a result of compression or invasion by a primary tumor or lymph node metastasis.^{5,6} Another indication is prophylactic stenting prior to debulking or removal of a large abdominal and pelvic tumor so as to minimize iatrogenic trauma to ureter.⁷

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DJ placement is not free of complications and problems. Initially, few complications were reported in literature.⁸ Later many publications revealed that indwelling ureteral stents can cause lower abdominal pain, dysuria, fever and hematuria.^{9,10} Moreover indwelling stents can migrate, break or even forgotten in the patients.¹¹ After the purpose of stenting is over, patients are subjected to double-J stent removal. Complicated DJ stent removal generally requires general anesthesia and other operative facilities. Uncomplicated double-J stents can be removed under local anesthesia using topical lignocaine gel (2%). Pakistani female patients are not comfortable as this procedure is usually performed by male doctors.

Keeping this in mind, it was planned to train female operation theater senior nurse with one female assistant for the procedure of DJ stent removal. The procedure was performed initially under supervision and later independently. The purpose of this study was to find the outcome of DJ stent removal by female trained operation theater nurse under local anesthesia in female patients who were reluctant for the same procedure being performed by the male doctors.

METHODOLOGY:

This descriptive study was conducted in the Department of Urology and Renal Transplantation Jinnah Postgraduate Medical Center Karachi from June 2015 to Feb 2016. All female patients who were reluctant to get their DJ stent removal performed by male doctors were included. Patients in whom duration of DJ stent placement duration was more than 4 months, those with radiological evidence of encrustation and where ureteric reimplantation performed, were excluded.

All double J stents were removed by trained female

senior theater nurse under supervision of consultant urologist. The nurse received extensive training for the procedure as observer and then performed procedure multiple times under supervision and then independently.

Informed and written consent was taken from all the patients. Preoperative x ray KUB was done in all patients to find out the location of DJ stent and to exclude stent encrustation. All patients were placed in semi-lithotomy position. Rigid cystoscope size 19 Fr with 30 degree lens was used. The 5 Fr stent removal forceps passed through the channel of cystoscopic bridge into the urinary bladder. Urinary bladder was kept partially filled and then with the help of stent removal forceps stent grasped and retrieved. All the problems encountered during the removal were recorded. Operation time was defined as time taken from the introduction of cystoscope till complete removal of stent. Follow-up was done in out-patient department. Data was presented as numbers and percentages.

RESULTS:

During the study period thirty patients under went DJ stent removal. All the patients were females. The age ranged from 15 year to 55 year with the mean age of 27 year. Most (60%) patients were from 15 year to 30 year of age. Common indications for DJ stent placement were obstructive renal stones (36.6%), ureteric stones either obstructive or post-ureteroscopic lithotripsy (33.3%). Indications for DJ stent placement are mentioned in table I. In majority (n=24, 80%) of patients DJ stent placement was for from 1 to 2 months. In 3 (15%) patients it remained for less than one month duration. Three (15%) patients came after 3 to 4 months for removal of DJ stent.

Almost all the DJ stents were successfully removed

Table I: Indications of DJ Stent Placement

Indications	Number of Patients (n)	Percentage (%)
Renal stone disease (obstructive)	11	36.6%
Ureteric Stone (obstructive and post ureteroscopic lithotripsy)	10	33.3%
Post pyelolithotomy	02	6.6%
Unexplained hydronephrosis	02	6.6%
Post PCNL urine leakage	01	3.3%
Ovarian mass	01	3.3%
Uterine fibroid	02	6.6%
Carcinoma colon	01	3.3%

Table II: Problems Encountered During DJ Stent Removal

Problems Encountered	Number of Patients (n)	Percentage (%)
Mild pain	08	26.6%
Difficult Identification of DJ stent	02	6.6%
Failure to retrieve DJ stent requiring ureteroscopy	01	3.3%
Broken DJ stent requiring ureteroscopy	01	3.3%

in one attempt except in two patients, who required general anesthesia and ureteroscopy for its removal.

The procedure in these patients was performed on elective operation list. In one patient it was due to encrustation around DJ stent and in second patient due to broken DJ stent. Both patients required ureteroscopic help for DJ removal and were successfully retrieved. All the DJ stents were removed intact except one. Mean operative time taken for removal was 3 minutes. All patients were kept on postoperative follow up in out-patient department for 2 weeks. Out of 30 patients, only six presented with post procedure complications. The problems encountered are given in table-II. All these patients were successfully treated.

DISCUSSION:

Nowadays the double J ureteral stents have become one of the most basic and valuable tools in the urology practice. Its placement and retrieval has become a major work load of urological theaters all over the world. Different techniques have been developed to facilitate the DJ stent retrieval. These techniques include blind method, magnet retrieval, thread stent, snail headed catheter retrieval, crochet method, ultrasound guided retrieval and cystoscopic retrieval.¹²⁻¹⁴ All these methods require prior operation theatre booking, need of anesthetist and admission in ward or at least day care observation. Most of these methods are not cost effective and technically difficult to learn. Among these techniques cystoscopic retrieval under local anesthesia has been considered the most popular and convenient due to its precision and safety. The same was practiced in our department.

In this study for the retrieval of DJ stent a senior operation theater female nurse was trained to perform the procedure under topical lignocaine anesthesia. This was used in those female patients who were reluctant for DJ stent removal by male doctors. Since our country is having different social and religious background, with less number of female urologists, the novel idea of training female staff nurse with one female assistant was contextual and

appropriate. This ensured privacy and increased female patients' confidence and trust. Previously this procedure was performed under general anesthesia on our elective operation theater list but with this change of practice we are able to save not only operative time but also more patients can be booked for main operation theater list.

Regarding operative procedural problems, almost all the DJ stent were successfully removed in one attempt except two who required general anesthesia. Time taken by theater nurse for the removal of stent was relatively higher as compared to an another study of bilateral double J stent removal with a different technique, where it was one minute 45 seconds.¹⁵ All of the DJ stents were removed intact except one. Follow-up in outpatient clinic revealed only minor complications which were dealt with easily. Overall it was a successful approach with acceptable outcome. Despite of extensive literature search no similar approach was found in urology practice. This approach may be employed as a routine in places where similar cultural issues exist.

CONCLUSIONS:

It was safe to assign the task of DJ removal to the trained female theater nurse for the female patients. The procedure was successful with minimal problems which were managed easily.

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Yasmeen Naheed: Data collection.

Authorship Declaration:

All authors contributed to this study, approved final draft and are responsible for any clarification in this regard.

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