



PEDIATRIC UROLOGY CASE REPORTS

ISSN: 2148-2969

Journal homepage: <http://www.pediatricurologycasereports.com>

Forgotten JJ stent: A rare case report

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Abstract Indications for stent insertion have increased in recent years since their introduction in 1978; along with increase in their use and hence their complications. JJ ureteral stents are commonly placed for short term for prevention or relief of upper urinary tract obstruction and following reconstructive surgery. Long stay of JJ stents in the body causes undesired side effects. The forgotten stents can produce considerable morbidity and mortality.

Key words Ureteral stent; forgotten stent; JJ stents; complications

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Accepted for publication 2 February 2015

INTRODUCTION

Ureteral stents are frequently preferred in a urological practice and the potential complications related to their use should not be underestimated [1]. Endoscopic stent

placement was first reported by Zimskind to recover from ureteral obstruction in 1967 [2]. The use of a JJ stent was first described by Finney in 1978 [3]. Subsequently, indwelling ureteral stents have been used in a variety of urological diseases and procedures for many years [4].

The prevalence of all consequences and complications increases with prolonged indwelling time of a stent. Short-term

sequelae include pain, hematuria, lower urinary tract symptoms, and stent migration. Whereas, the long-term sequelae from “forgotten” stents (overlooked stents), include occlusion, encrustation, fragmentation, extrusion, abscess formation, renal failure, and sepsis which carry even greater morbidity [4-6].

CASE REPORT

A 15 year old boy presented with right loin pain and fever since 15 days. History dates back to 5 years. Patient was actually asymptomatic for up to 10yrs. He sustained trivial trauma while playing 5 years back and developed right loin pain for which he was evaluated in an urology institute and was found to be having right pelviureteric obstruction (PUJO) with DTPA scan showing 38% function (Fig. 1A).

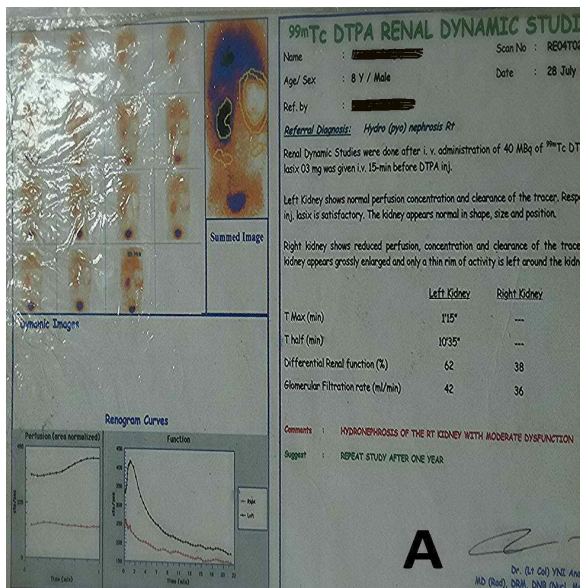


Fig. 1A. DTPA scan before pyeloplasty.

Patient underwent right pyeloplasty with JJ stent insertion and was given a date for JJ stent removal. But mother defaulted due to family issues.

When the patient developed right loin pain, fever and dysuria after 1 year post pyeloplasty, mother took him to the same hospital. Intravenous urogram (IVU) done before stent removal, revealed stent in situ without any demonstrable uptake on right side (Fig. 1B) and had split function of 12% on DTPA Scan (Fig. 1C). Cystoscopy and removal of JJ stent was done (Fig. 1D), fortunately encrusted stent, especially at the tips was removed via retrograde approach without any difficulty.

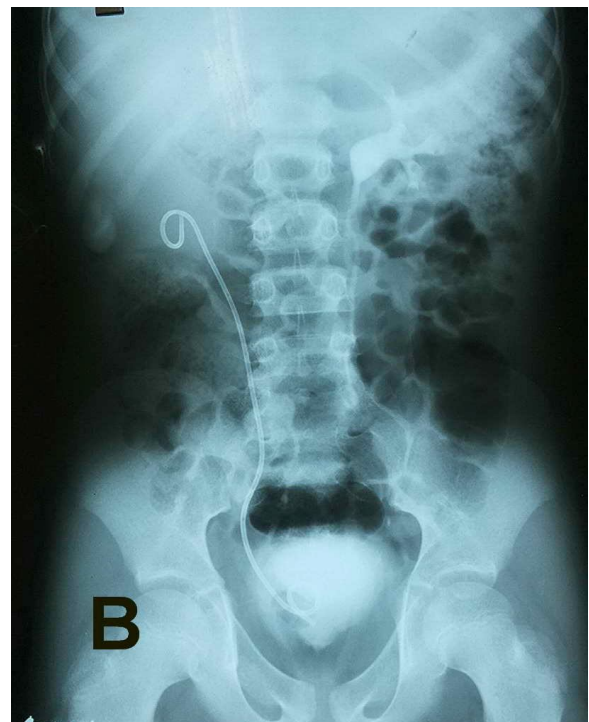


Fig. 1B. IVU done before stent removal.

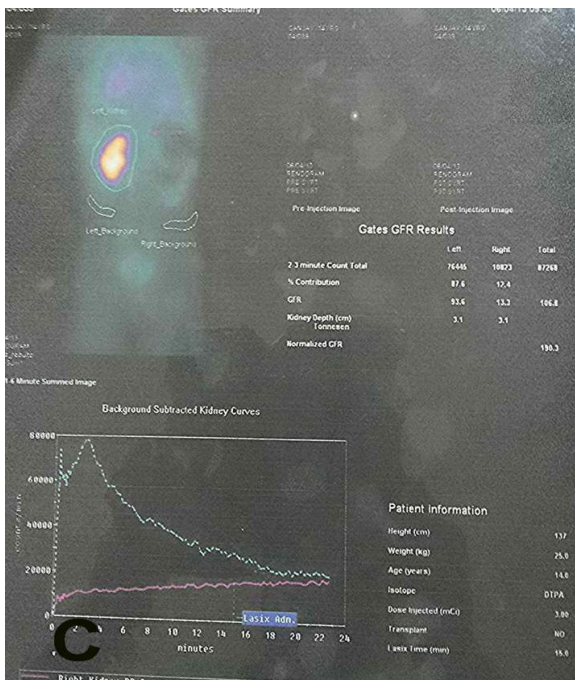


Fig. 1C. DTPA Scan before nephrectomy.



Fig. 1D. Removed encrusted JJ Stent.

Patient became symptomatic after stent removal and developed infected

hydronephrosis on right side. In spite of IV antibiotics patient persisted to have symptoms hence right percutaneous nephrostomy was done. But follow up right nephrostograms did not delineate lower course of the ureter (**Fig. 1E**).



Fig. 1E. Nephrostomogram showing non delineation of the ureter.

With DTPA scan showing obstructed curves with 12% function (**Fig. 1C**) and inability to clear infection, decision was taken for nephrectomy with removal of JJ stent done after 4 months. Patient became asymptomatic after the procedure and was doing well.

After 10 months patient had right loin pain and fever for which he came to our institute;

which was managed conservatively and hence discharged.

DISCUSSION

Despite tremendous advances in stent biomaterials and design, JJ stents are not free of complications. Complications occur in patients with long term placement of stents who do not come for follow-up. A forgotten ureteral stent is the one which is not removed before maximum safe in dwelling time, i.e. 6 months [5]. This is a challenging problem for urologists arising from poor patient compliance with instructions to return for stent removal, and inadequate counseling by practitioners.

Management of these stents often requires multiple endourologic approaches, which should be managed by well trained and sufficiently experienced surgeon in endourology [1, 7]. Open surgery has a role when endourology fails, but this also has its own risks of causing further renal impairment and sepsis [1,7]. If a longer duration of stenting is required, then the JJ stent should be replaced with a new one ideally after 3months. In the present case, possibly the encrustations with infected sediments and associated dilated system might have led to eventual loss of function and hence nephrectomy. Literature is abundant with reports of forgotten JJ stents

and their associated complications; with some leading to nephrectomy in adults [8]. In view of its rarity and unusual complication of forgotten JJ stenting leading to nephrectomy in paediatric patient, we wanted to report this case. Up to our knowledge, nephrectomy in pediatric patients due forgotten JJ stent has not been reported in English literature.

Complications can be avoided if ureteral stents are removed as soon as possible or changed periodically. A computerized tracking registry was initially proposed by Monga *et al.* in 1995 [6, 9]. Mc Cahy *et al.* recommended that a computer record containing patient's name, address, telephone number, date of insertion and type of stent should be maintained. A reminder letter or phone call should be made in case the parents fail to keep their appointment [5, 9].

Indwelling ureteral stenting should be used when absolutely indicated. But whenever used they must be tracked closely and removed at the earliest date. Parenteral counselling by the treating surgeon regarding JJ stent plays the pivotal role in minimising the complications.

Acknowledgements

The author(s) declare that they have no competing interests and financial support.

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