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RESEARCH ARTICLE

FECAL STENT" FORGOTTEN, ENCRUSTED, CALCIFIED DOUBLE-J URETERAL STENT RELATED COMPLICATIONS IN UROLOGY AND MANAGEMENT STRATEGIES

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ABSTRACT

Background- Double-J (DJ) stents have become fundamental and widely employed instruments in urology across various procedures, tracing back to their initial introduction in 1967 by Zimskind et al. The typical lifespan of a DJ stent after which it necessitates replacement or removal to prevent potential complications. Despite this, instances of stent negligence are not uncommon. Objective & Method- In this retrospective study conducted at the Department of Urology, RRMCH, over a period of 20 months, we report our experience in the management of forgotten stents and steps taken by us in preventing DJ stent-related morbidity. Result- A total of 7 patients were enrolled in this study. The mean duration of the indwelling stent in situ was 28.7 months (8-60 months). 71.4% patients forgot about their stent, and in 28.6% patients, there was an inadequate counseling done by urologist. A total of 85.7% patients had encrustations. Some patients required multimodality approach when needed with few patients requiring more than 2 procedures for removal of indwelling stents. Several complications were noted during or after forgotten stent. Conclusion- Forgotten DJ stent is still a common problem in developing world, and it also brings lot of morbidity and financial burden to patient. Proper education and counseling of patients and relatives before and after procedure and maintaining stent register may help in reducing incidence of forgotten DJ stent.

INTRODUCTION

Double-J (DJ) stents have become fundamental and widely employed instruments in urology across various procedures, tracing back to their initial introduction in 1967 by Zimskind et al. The typical lifespan of a DJ stent ranges from 6 weeks to 6 months, after which it necessitates replacement or removal to prevent potential complications such as encrustations, stone formation, fractures, and stent blockages. Despite this, instances of stent negligence leading to forgotten placements are not uncommon. In this retrospective study, we report our experience in the management of forgotten stents and steps taken by us in preventing DJ stent-related morbidity.

MATERIAL AND METHODS

This was a retrospective study conducted at the Department of Urology, RRMCH, Bangalore, over a period of 20 months (May 2022 to December 2023).

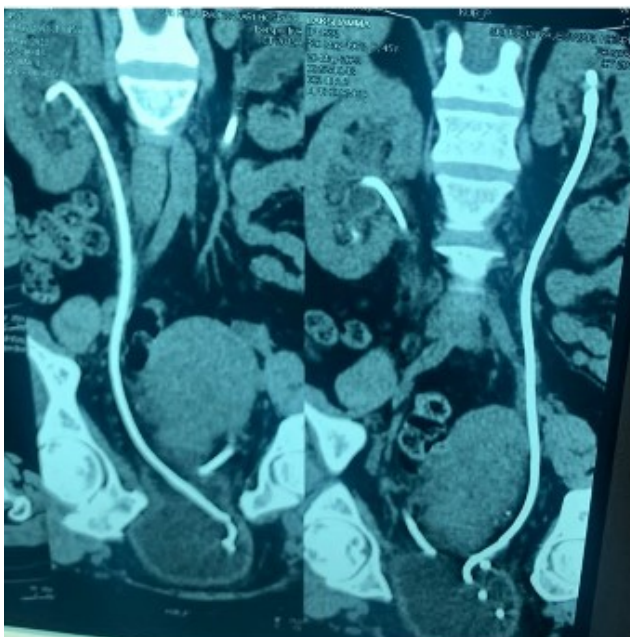
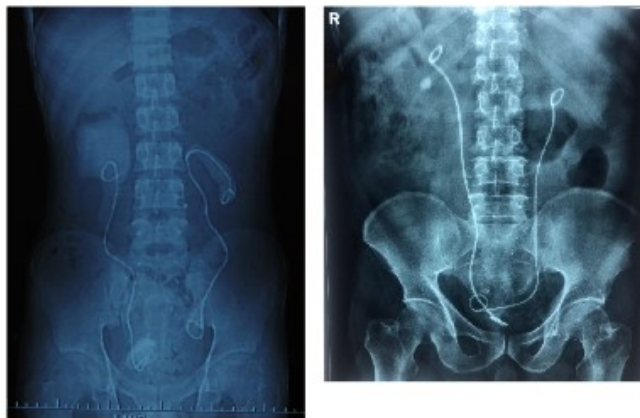
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A total of 7 patient's data were collected from medical records, who met the eligibility criteria of forgotten DJ stent (> 6 months), and factors like duration of DJ stent indwelling, presenting complaints, and type of previous procedure were noted. The patients included in this study were those referred from peripheral hospitals as well as previously operated at our institute. All the patients were evaluated with the medical history, socioeconomic status and literacy. Each patient underwent ultrasonography kidney-ureter-bladder (KUB), X-ray KUB, urine analysis and serum creatinine. Non-contrast computed tomography (CT) was performed when indicated (mainly for radiolucent calculi and in complex cases like fractured or broken stent). Sterile urine was ensured before intervention. The plan of treatment was decided on the basis of investigations.

RESULTS AND DISCUSSION

A total of 7 patients were enrolled in this study, of which 71% (n = 5) underwent previous procedures (for which DJ stent was inserted) in other hospitals and the remaining 29% (n = 2) were from our hospital. In all cases, polyurethane was used.

The mean age of the patients was 49.4 years, and the age ranged from 21 to 78 years. Of the 6 participants, 57% (n = 4) were males and 43% (n = 3) were females. The mean duration of the indwelling stent in situ was 28.7 months, and the duration ranged from 8 months to 5 years. Two patients had education above higher secondary level, 5 patients were illiterate. All hailed from rural India with the poor socioeconomic background. 5 patients forgot about their stent, and in 2 patients, there was history of inadequate counseling by urologist. Most common indications for stenting were URS (43%) and PCNL (28%). A total of 6 patients had encrustations, and 1 patient had fractured stent. Presenting complaints were dysuria (n = 6; 85%), storage lower urinary tract symptoms (n = 3; 42%), hematuria (n = 1, 14%), flank pain (n = 5; 71%) and recurrent urinary tract infection (n = 5; 71%). Some patients required multimodality approach when needed with few patients requiring more than 2 procedures for removal of indwelling stents. In 6 (85%) patients, URS was required. PCNL, RIRS, cystoscopy and DJ stent removal, mechanical cystolithotripsy (CLT) for stent removal were required in 2 (24%), 1 (14%), 1 (14%), 2 (28%), respectively. Several complications were noted during or after forgotten stent removal like fever (14%), hematuria requiring transfusion (14%) and stent fragmentation (14%).



CONCLUSION

Forgotten DJ stent is still a common problem in developing world, and it also brings lot of morbidity and financial burden to patient. This also increases strain on resources and infrastructure which is already limited in developing countries. In most of patients, endourological procedure is required for management of such cases with few requiring open surgery. Proper education and counseling of patients and relatives before and after procedure and maintaining stent register may help in reducing incidence of forgotten DJ stent.

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