

# Forgotten Ureteral Double-J Stent Complicated by Severe Encrustation in the Bladder

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## 1. Introduction

As we all are aware about, double j stenting is a routine procedure in urology. The indications of double J catheter placement include the relief of ureteral obstruction secondary to diverse etiologies, postoperative drainage, and preventing ureteral injuries during surgical procedures. However, its removal on time is as important as the need for the placement. Serious complications such as migration, fragmentation, encrustation, and stone formation can occur, especially when stents are left in place for long periods of time. This increases surgical as well as anesthetic risks and financial burden to the patient. Herein, we present a case report of forgotten stent.

34 years male patient presented with Pain while urination since 2 months. He underwent URSL with stenting 1.5 years back. The patient, however, was totally unaware of the stent. On examination stent was palpable in penile urethra. X ray KUB and CT abdomen was done. Ct abdomen revealed vesical calculi surrounding DJ stent approx. 33x32x20mm with fragment of DJ stent extending into penile urethra, Bulky left kidney with stent fragment in situ. The patient was subjected to endoscopic removal of stones under general anaesthesia. Cystourethroscopy was performed using a 19 Fr sheath and 30° telescope. A heavily encrusted stent fragment was visualised in the bladder. Owing to heavy encrustations, it was difficult to grasp the fragment. Thereafter, a left ureteroscopy was performed using a semirigid ureteroscope, 6x7.5 Fr. The scope was negotiated up to the lower part of the stent, and by the help of a pneumatic lithotripter, the encrustations were fragmented with difficulty followed by suprapubiccystolithotomy for vesical fragment.

Image 1: X ray KUB



Image 2: CT IVU

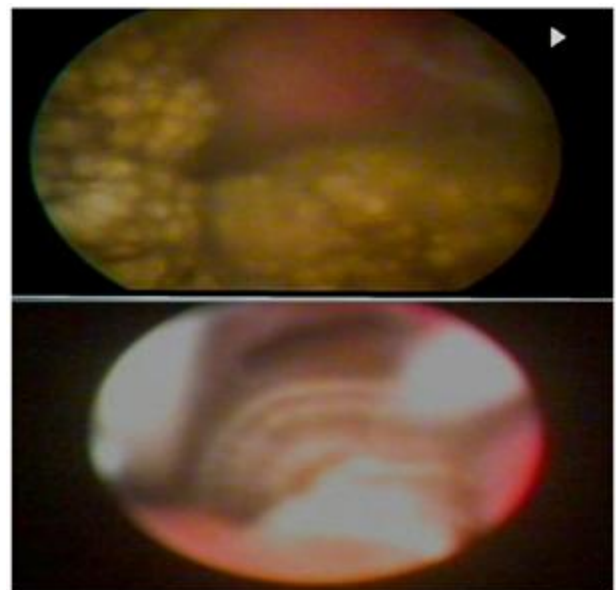


Image 3: CYSTOSCOPY - Showing vesical calculus around DJ stent fragment



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Image 4: SPECIMEN- DJ Stent with stone fragment



Image 5: Stent tracker app by intas

## 2. Discussion

DJ stenting is very common procedure in urology practice but the forgotten stents remain a major concern. Many a times, the patients are not aware of the stent. The forgotten ureteric stents may get complicated and produce a wide range of urological symptoms like dysuria, increased frequency, hematuria, recurrent urinary tract infections, stone formation, hydronephrosis and septicemia.<sup>1</sup>

Risk factors include a history of urolithiasis, urinary tract infections and prolonged stenting. Biofilm formation on urological implants leads to the protection of persisting bacteria from local defense mechanisms, thereby rendering persistent urinary tract infections more common. The encrustation over the stents and large stone formations at the

upper and lower ends of stone formations are the well-recognized complication if stent is left for long time in urinary system.<sup>2</sup>

As per the literature, single-stage removal is discouraged in case of long intraoperative time, and it is better to stage the procedure. Ecker and colleagues have proposed that distal part of the stone burden should be removed first as it will facilitate the placement of the ureteric access catheter and then PCNL could be used for the stone-covered proximal end of the stent.<sup>3,4</sup>

ESWL and flexible ureteroscopy retrieval of the stent has been reported to be non-invasive and effective first line therapy for encrustations located at the upper coil and or stent body. ESWL is however indicated mainly for localized, low volume encrustations. In case of severe encrustations, laser-lithotripsy, PCNL and open surgery either alone or in combination with other procedures can be used.<sup>5</sup>

Recent developments aim to address specific causes of stent's failure, especially encrustation and biofilm formation. silicone and polyurethane had higher resistance to encrustation compared to other materials, after 2 weeks of stent insertion. At 10 weeks from insertion, silicone started to show superior performance than polyurethane. Currently, there is no ideal stent that does not experience complications and failures.<sup>6</sup>

## 3. Conclusion

Forgotten stents are source of sever morbidity. The computerized tracking registry and stent record book should be used to avoid this problem.

## References

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