COMPLICATION OF LONG INDWELLING URINARY CATHETER AND STENT

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ABSTRACT

Urinary catheters and Stents are used commonly now a days for drainage and relieving obstructions in lower and upper urinary tract respectively. Complications related to them have also increased. We encountered two patients who had been operated earlier and had indwelling catheter and stent for a long period. Both patients had urinary infection and deranged renal function. Both of them improved after surgery and removal of indwelling foreign bodies. We conclude that indwelling catheter and stent carry a risk of complications and accurate timing of removal or changing is mandatory.

Key words: Catheter, stent, foreign body, urinary tract, forgotten catheter, complication, Foley

INTRODUCTION

Urinary catheters have been used to treat patients with urological problems such as urinary incontinence and retention since Greco-Roman times¹-⁴. Foley catheter was designed by Fredric Foley and adopted and manufactured by C. R. Bard in 1930s⁵. They are used for providing relief in cases of obstruction, monitoring and managing urine output in critically ill patients.

The first double-“J” (DJ) stent was first manufactured in 1978⁶. It provides a convenient means of drainage to the upper urinary tract and its J-shaped tips at both the ends efficiently prevent migration from the kidneys and/or the urinary bladder. These days, DJ stents are in common use because they provide efficient and relatively safe urinary diversion between the kidney and the urinary bladder⁷.

Here we present 2 cases in which negligence on part of the patient led to complications and proved to be a source of infection and probably resulted in renal failure.

CASE REPORT

Case 1. A 65 year old man was brought to surgery outpatient department after being referred from a private hospital with complaints of burning micturition, pain in the lower abdomen and difficulty in micturition. Patient was in poor general condition. The local
examination revealed a retained urinary catheter with its external end cut. On obtaining
detailed history, we came to know that patient had an episode of acute urinary retention
about 7 months back. For this he was hospitalized at some private hospital and a urinary
catheter was placed. He was diagnosed as a case of carcinoma prostate and bilateral
orchidectomy was done there.
Patient was discharged with catheter and was on the catheter since then as patient never
went for follow up. The catheter gradually stopped draining followed by which he was
taken to the hospital where removal of catheter was attempted but failed, after which he
was referred to higher center.
Ultrasound guided aspiration/bursting the bulb was attempted but in vain and on
ultrasound there was no definite shadow of catheter bulb. Instead there was irregular
shadow present with changes suggestive of cystitis. X ray KUB showed a radio-opaque
shadow in the bladder. Renal function was deranged and patient was in renal failure.
Patient was resuscitated and taken for open surgery. Intraoperatively, the bulb of catheter
was found to be surrounded by dense deposits of salt all around it (Figure 1) with which
the catheter was extracted. Patient was kept on i/v antibiotics in the postoperative period
and he improved within a couple of days.

Figure 1. Catheter after removal- showing stone formation at the bulb end.
Case 2. A 35 year old man came to outpatient department with complaints of pain in left flank and burning micturition with past history of renal stone disease and a recent ultrasound report showing left renal stone (6.8mm). There was history of placement of DJ stent on the left side. X ray KUB was done which revealed a left sided DJ stent in situ which was there for more than a year now. His renal functions were deranged and urine analysis report was conclusive of Escherichia coli infection. The stent was removed cystoscopically which also revealed trabeculations in the urinary bladder along with edema at the left ureteric opening. There were encrustations around the stent (Figure 2). Patient underwent dialysis for renal failure in the postoperative period and improved.

Figure 2. DJ stent after removal- showing encrustations over it.

DISCUSSION

Foleys catheter is an important tool for a doctor in emergency as well as in ward for managing and monitoring the patients. Foleys catheter related complications like infection, urethral injury, stone formation and fistulisation have been reported in literature. In case 1 the patient did not went for follow up for more than 7 months and the Foleys catheter remained in situ for more than 7 months, which led to urinary infection along with formation of stone with renal failure possibly due to catheter. The DJ ureteral stent has become an integral part of the urological armamentarium. It allows good urinary drainage from the kidney to the bladder and is generally safe and well-tolerated. However, different complications may occur with short-term placement.
for three to nine weeks, including flank pain and irritative voiding symptoms, hematuria, dysuria, frequency, flank and suprapubic pain, referred to as the “stent syndrome”\(^6\). Complications occur in patients with long-term placement of stents who do not come for follow-up; the forgotten stent. These delayed complications include hydronephrosis, encrustation and blockage, stuck stents, stent migration, stent knotting and fracture, spontaneous fragmentation and stenturia.\(^6\) - \(^7\) - \(^9\) - \(^10\) During insertion of a ureteric stent, one should not only ensure its accurate placement but also ensure that the length chosen is appropriate for the patient. Migration of a stent is a known complication.\(^6\), \(^10\) In our patient (case 2), the vesicle end had developed tiny encrustations causing pain and source of infection leading to cystitis. The proximal end of the stent remained in the renal pelvis and was patent. The duration of an indwelling DJ stent should be as short as possible, and, if a longer duration of stenting is required, the DJ stent should be replaced with a new one. Careful monitoring of patients could exclude any possibility of a stent being forgotten and left in situ.

CONCLUSION

Any stent or catheter is a double-edged weapon and though, regularly used, not always justified. Certain precautions and guidelines should be abided by for their appropriate use. Whenever necessary, the patient and the relatives should be thoroughly informed about the need, consequences, and complications as well as their timely removal. The use of the double J stent should be documented (name, address, and contact information). Now a days silicon catheters are used in patients who require prolonged catheterization and regular follow up and change of catheter at regular interval is required for prevention of these complications. The practice of such protocols will avoid unnecessary morbidity and not to mention, legal problems.

CONSENT

Written informed consent was obtained from the patient for publication of this case report.

COMPETING INTERESTS

The authors declare that they have no competing interests.

REFERENCES