Andrology and fertility

A missed fragmented double J ureteral stent for two years: Case report

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ABSTRACT

Inserting Double-j ureteral stent is one of the most popular procedures in urology field. There are different indications for indwelling the stent. For some reasons, it could be neglected for a long time despite its importance. We present a case of 52-year-old patient who had a missed fragment of stent in the urinary bladder for two years with stone formation on one end. We successfully removed the stent and the stone. Such a case is considered rare to deal with during urology practice.

Introduction

Ureteral stents are commonly used in urologic surgeries to reduce obstructions, and to increase ureteral healing after surgeries being performed on ureter. The most common indication for ureteral stent placement is kidney and ureteral stone surgeries, irritative bladder symptoms and hematuria. Other complications are urinary tract infections, stent encrustation, migration, and stent fracture.

In our case, we will discuss a case of residual piece of stent for two years in the bladder.

Case report

A 52-year-old male presented to our clinic with complaints of lower urinary tract symptoms, hematuria, dysuria, and frequency four months ago with no general symptoms. Past medical history was remarkable as it showed a right ureteral stent was inserted more than two years ago in another center for calculus.

After three months, he was undergone a surgery to remove the stent at the same center as he declared. The patient was in good health. Examination of the x-images showed a missed fragment of the stent in the bladder with large stone formation on one end on kub (Fig. 1). Ultrasound revealed no hydronephrosis. Blood tests showed normal value range including complete blood count, creatinine, and urea. Urinalysis demonstrated 70–80 WBC count, 100–150 RBC count, and crystals. Having taken patient’s consent, we performed a cystoscopy under local anesthesia. Cystoscopy showed a piece of stent neglected into the bladder with a large calculus formation on one end. By using ballistic lithotrites, the stone was transformed to multiple and small pieces. We removed the residual stent safely, and tried to extract most of the stones (Fig. 2). Finally, our patient was in good health and he declared he passed a lot of stones with urine.

Discussion

Using stents is one of the most popular procedures in urology. There are a lot of indications for inserting ureteral stents. With a wide use of stents recently, some complications resulted. There are different biomaterials used to improve the quality of the stent. Nevertheless, neglected double j stent has its complications such as encrustation, immigration, urinary tract infection, and fragmentation.

Ureteral stent fragmentation is a rare complication. A lot of mechanisms have been stated to cause this complication. The most frequent one is infection. Depolymerization occurs on the material as a result of infection. Another mechanism is aging of the stent. Mechanism failure due to aging may develop and the stent may become frangible instead of flexible.

Another factor associated with stent fragmentation is kinking. It was suggested that fragmentation may occur at a site previously kinked before stent insertion. Thus kinking during stent insertion must be avoided.

The clinical presentation of a fragmented ureteral stent may be septic, hemorrhagic or inflammatory. Rapid disintegration with documented urinary tract infections and spontaneous excretion of fragments has also been reported by Zisman et al. Stent breakage has been attributed to the effect of urine solution and to an indwelling time of more than 1 year, which may accelerate the degradation of the stent material and thus cause an early mechanical failure.

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Management of heavily encrusted stents remains a challenging situation for urologists. However, there are no guidelines for the most effective treatment modalities. In our case, for unknown reasons, there was a missed fragment of stent in the bladder for two years with large stone formation on one end. Such a case is considered a challenge to the urologist. We could perform one successful session and remove the residual stent safely without any complications.

**Conclusion**

Fragmentation of ureteral stent is one of complications of a neglected stent. Scheduled visits for patients to hospital are the most effective way to reduce the complications. Urologist should be trained to deal with such cases.

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Fig. 1. KUB image shows a fragment of double j stent in the bladder.

Fig. 2. The missed fragment double j.

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