



Case Report

No Strings Attached with Ureteric Stents

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Citation: Koh SH, Yeow Y, Lee YM, Kwok JL (2023) No Strings Attached with Ureteric Stents. Ann Case Report. 8: 1203. DOI:10.29011/2574-7754.101203

Received: 02 March 2023, **Accepted:** 06 March 2023, **Published:** 08 March 2023

Abstract

Ureteric stents are commonly inserted following ureteroscopy to reduce the risk of ureteric obstruction. Removal can be done via extraction string on the stent or with aid of cystoscopy. Despite evidence of similar complication rates and reduced healthcare costs for stents with extraction strings, uptake of this practice remains poor. We present a lady in her 50's who underwent an elective right mini endoscopic combined intrarenal surgery for multiple renal calculi in which a stent with extraction string was inserted for the intention of early removal. However, post procedure day 1 X-ray showed a small residual proximal ureteric stone fragment. As such, with the intention of prolonging stent dwell time, the extraction string was cut, and the stent was left in situ for cystoscopic removal later. With this practice of converting a stent with extraction string to one without, hopefully the use of stents with extraction string will be higher.

Introduction

Ureteric stents are inserted following ureteroscopy to prevent stricture formation, mitigate symptoms such as clot/fragment colic and reduce the risk of ureteric obstruction. Although some stents come with extraction strings for self-removal, common practice is to cut the string pre-insertion, which commits patients to cystoscopic removal at a later date, despite evidence of similar complication rates and reduced healthcare costs for stents with extraction string [1]. Stents with extraction string are usually left for up to a week in our practice, whereas if the string were to be removed, it can be left in for a longer period. We describe our technique of post-operatively converting stents with extraction string to one without. Reason for conversion could be due to presence of residual calculi, clot colic or concerns of ureteric obstruction.

Case Presentation

A lady in her 50's underwent an elective right mini endoscopic combined intrarenal surgery for multiple renal calculi. A stent with extraction string was inserted with intention of removal in the early post-operative period. However, post procedure day 1 X-ray showed a small proximal ureteric fragment. We describe our approach of cutting the extraction string post insertion. One arm of the double arm extraction string was first cut near the urethral meatus. Subsequently, the contralateral arm was carefully and

gently pulled, removing the length of string in entirety, leaving the stent in position. The patient was subsequently seen in clinic after a month and repeat X-ray showed passage of the residual fragment with the stent still in position. The stent was subsequently removed aided by cystoscopy with no complications.

Discussion

Over three-quarters of urologists place a ureteric stent following ureteroscopy [2]. However, only less than a quarter leave the ureteric extraction string in place [3]. This may be due to preconceptions such as discomfort from string irritation, stent migration and infection. However, Barnes et al has shown no difference in stent-related symptoms between patients with and without ureteric stents extraction strings. There were also equivalent rates of symptomatic urinary tract infection, visits to the emergency department and post-operative phone calls between these 2 groups [4]. The use of stents with extraction strings has also been linked with shorter stent dwell time [5] and thus the duration of stent-related symptoms. It provides patients the autonomy of self-removal and avoids the additional time taken to travel to the doctors' office. With the added convenience and avoiding the use of an additional cystoscopy procedure, overall healthcare costs are reduced significantly with the use of stents with extraction string [1,3,5]. However, stents with extraction strings do come with its

disadvantages. Rates of stent dislodgement reported in literature range between 4.7-15% [1,3,4,6]. The risk of stent dislodgement was 4 times higher in women than in men [6]. Hence, for cases where premature removal of ureteric stents may result in adverse outcomes to patients, stents without extraction strings are preferred. These may include patients at risk of colic or obstruction following stone surgery, stents that were placed for urinary diversion in a solitary kidney or when stents were placed following ureteric repair or anastomosis. Our patient had a small right proximal ureteric fragment post right mini endoscopic combined intrarenal surgery and was at risk of developing colic as well as obstruction post procedure should the stent be prematurely removed. Considering that she may be at higher risk of stent dislodgement, decision was thus made to remove the extraction string on her stent. With this approach, there is more flexibility to leave extraction strings in situ, as it can be easily converted to a string-less stent should there be an indication for it after insertion. We recognise the benefits that come with leaving extraction strings in situ. However, careful selection of patients is required. In the event of unexpected situations that require stents to be left for a longer duration, our technique allows for easy conversion. Hopefully with this approach, the use of stents with extraction strings within the urology community will be more common and in turn result in reduced healthcare burden.

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