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Yeng Kwang Tay, Scott Donnellan, Dan Spernat

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# Urinary Incontinence Is a Rare Complication of Memokath® Ureteric Stent Insertion

Yeng Kwang Tay,<sup>1</sup> Scott Donnellan,<sup>1</sup> Dan Spernat<sup>2</sup>

<sup>1</sup> Department of Urology,  
Monash Medical Centre, Victoria,  
Australia.

<sup>2</sup> University of Adelaide, Department of Urological Surgery,  
The Queen Elizabeth Hospital,  
South Australia, Australia.

Corresponding Author:

Dan Spernat, MD  
Department of Urology, The Queen  
Elizabeth Hospital, 28 Woodville  
Rd, Woodville South SA 5011, South  
Australia, Australia.

Tel: +61 8 8222 6321  
Fax: +61 8 8222 7448  
E-mail: spernat1@hotmail.com

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## INTRODUCTION

The Memokath® ureteric stent is a thermo-expandable titanium-nickel alloy.<sup>(1)</sup> Its use is not recommended in stone formers and patients with functional stenosis.<sup>(2)</sup> Unlike conventional plastic ureteric stents, it is a semi-permanent prosthesis. However, should removal be required simply flushing the stent with cold water returns it to a soft and pliable form. As these stents do not promote tissue ingrowth, removal is atraumatic. The stent should not extend beyond the ureteric orifice into the bladder as this may result in bladder irritability, reflux and associated flank pain.<sup>(3)</sup>

Herein we report the unusual case of a 49-year old man who presented with urinary incontinence following insertion of a Memokath® ureteric stent three weeks prior.

## CASE REPORT

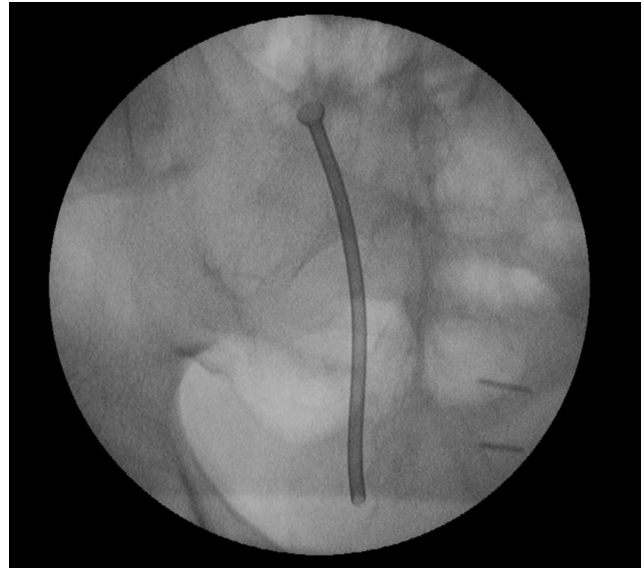
The stent was inserted to relieve ureteric compression secondary to retroperitoneal fibrosis in a solitary kidney. The retroperitoneal fibrosis was thought to be secondary to ankylosing spondylitis. Our patient had previously undergone a left nephrectomy as an infant for a non-functioning kidney, and a proctocolectomy with formation of ileostomy secondary to ulcerative colitis. His obstructed solitary kidney was initially identified due loin pain and a raised serum creatinine. Abdominal computed tomography confirmed hydronephrosis and a right nephrostomy was inserted emergently. Once the serum creatinine had stabilized antegrade and retrograde pyelograms demonstrated a 60 mm distal right ureteric stenosis. A retrograde ureteric stent was placed with considerable difficulty.

Due to the patients multiple abdominal surgeries and long segment of ureteric occlusion it



**Figure 1.** Dilatation of stenotic segment of ureter.

was felt that ureterolysis or ureteric reimplantation would be technically challenging. Consequently, a 100 mm single-expansion Memokath® 051 ureteric stent was placed as a long term solution. At the time of insertion the stenotic segment of ureter was dilated without significant difficulty (Figure 1). Subsequent intra-operative fluoroscopy and cystoscopy demonstrated that the Memokath® 051 ureteric stent was successfully deployed across the compressed ureteric segment and not protruding into bladder (Figure 2). Resolution of hydronephrosis was confirmed on post-operative renal ultrasound and normal serum creatinine. Three weeks later the patient felt a “pop” while urinating and developed dysuria and urinary incontinence. There was no macroscopic hematuria. The patient presented to the emergency department at our hospital and abdominal X-ray demonstrated the Memokath® ureteric stent had migrated through the prostatic fossa into the anterior urethra (Figure 3). Cystoscopy and removal of the Memokath® ureteric stent was performed with



**Figure 2.** Intra-operative fluoroscopy demonstrates that the Memokath® was successfully deployed across the compressed ureteric segment.

resolution of urinary incontinence. A retrograde pyelogram was performed which demonstrated resolution of the ureteric occlusion. Consequently a ureteric stent was not reinserted. He remained well and asymptomatic at his 2, 4, 8 and 16-week follow-up. Serum creatinine remained normal and serial renal ultrasounds did not demonstrate any evidence of hydronephrosis.

## DISCUSSION

Spontaneous resolution of ureteric stricture has been associated with the use of Memokath® 051 ureteric stents.<sup>(4)</sup> Migration of Memokath® ureteral stents occurs in 11%-30% of patients. The rate of migration is similar in benign and malignant strictures, 22% and 20% respectively.<sup>(3)</sup> Migration may occur due to insufficient anchorage and propulsion by antegrade peristalsis.<sup>(5)</sup> Encrustation and obstruction may occur in up to 27% of cases.<sup>(3)</sup> Urinary incontinence secondary to stent migration is a rare event, however it can be easily diagnosed with a simple abdominal X-ray.

## CONFLICT OF INTEREST

None declared.



**Figure 3.** Abdominal X-ray demonstrates that the Memokath® had migrated through the prostatic fossa into the anterior urethra.

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