



## Right Ureterocutaneous Fistula Post-Appendectomy

Suchai Soontrapa, Patkawat Ramart, Siros Jitpraphai

### Introduction

Ureteral injury is commonly found in Obstetric-Gynecologic and Colorectal surgeries. Hysterectomy is the most common cause both open and endoscopic operation. In Thailand, ureteral injury caused by appendectomy has never been reported.

### Case report

An eighty-six years old, Thai female was admitted in a private hospital due to right lower quadrant abdominal pain for one week. Ultrasound and barium enema had been done and the result showed appendiceal abscess. The patient had been operated through Grid's iron incision and findings were, retrocaecal appendix, appendiceal abscess, pus content was about 20 ml. Appendectomy was done and penrose drain was remained. Two days after operation the drainage content was 675 ml., clear, yellowish. The third day, the content was 1,170 ml., the fourth day the content from penrose drain was 2,000 ml. and was sent for creatinine level, the result was 14.3 mg% which confirmed the fluid content was urine.

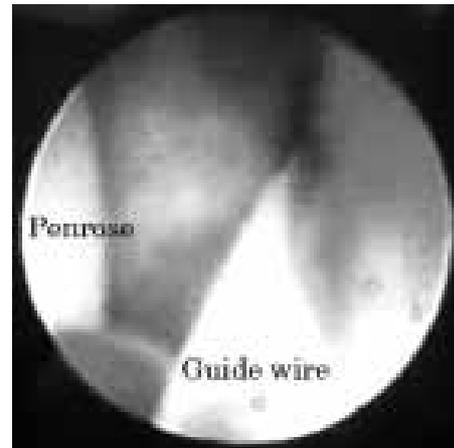
Intravenous pyelogram was done and the result showed leakage of contrast from right distal ureter at L5-S1 level. (Figure 1) Fistula tract from right ureter to right lower abdominal wall was suggested. The patient was referred to Siriraj Hospital 15 days after operation. Ultrasound showed right mild hydronephrosis (Figure 2) and right percutaneous nephrostomy was done, her clinical improved, right nephrostomy content drained very well, but still some urine content from penrose drain. Twenty days after that, right retrograde pyelogram was done and showed



Fig 1 IVP showed leakage of urine from middle ureter.



**Fig 2** *Ultrasound showed right hydronephrosis.*



**Fig 4** *Right ureteroscopy showed penrose drain and guide wire in the lumen of ureter.*



**Fig 3** *Right retrograde pyelogram showed stricture middle ureter.*

stricture at middle ureter (Figure 3), then uretero-  
renoscopy was perform and showed penrose drain  
in the lumen of middle ureter. (Figure 4)

Penrose drain was removed and double J stent  
was remained. The patient was doing well after  
operation and was discharge nine days later.

At 2 months after operation, the renal ultrasound  
showed no hydronephrosis of right kidney and JJ  
stent was removed. Her renal ultrasound at 4 months  
later was normal.

## Discussion

Ureteral injury less likely occurs in appen-  
dectomy patient. In the world has reported at least  
two cases.[2,3] In the difficult case of appendicitis  
should be aware right ureteral injury because of tissue  
swelling and adhesion. If the injury segment is an  
incomplete transection, internal urinary diversion  
should be performed immediately. However, the  
standard textbook recommends that incomplete  
transection of ureteric injury should be repaired  
primarily[4] but internal diversion alone can be  
treatment option when diagnosis is delayed and injury  
segment is short.

## References

1. St Lezin MA, Stoller ML. Surgical ureteral injuries. **Urology** 1991; 38(6):497-506.
2. Baykal K, Onol Y, Albayrak S, Inal H, Senkul T. Ureteral injury during appendectomy. **J Int Urol and Nephro.** 1996; 28(5):709-11.
3. Dalecki J, Patel R, Sundararajan L. Ureteral damage during appendectomy. **J Pediatr Surg.** 2010; 45(1):11-3.
4. McAninch JW, Santucci RA. Renal and Ureteral Trauma. In: Kavoussi LR, Novick AC, Partin AW, Peters CA. **Campbell-Walsh Urology** 9<sup>th</sup> ed. Philadelphia: **Saunders Elsevier**; 2007. p.1274-82.