

# Uterine Retroversion Related to Unilateral Hydronephrosis and Acute Renal Colic: A Case Report

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Uterine retroversion is not rare in reproductive women but is usually asymptomatic. Surgical intervention is indicated when it becomes symptomatic or related to infertility. Curable options by uterine suspension include a laparotomy or laparoscopy. A 24-year-old female patient came to the emergency department for help due to acute renal colic pain. Renal ultrasonography revealed mild right hydronephrosis. Intravenous pyelography revealed mild right hydronephrosis with lateral deviation of the right ureter. Obstructive uropathy due to external mass compression was suspected. Abdominal computed tomography revealed uterine retroversion with lateral deviation of the right ureter. A gynecologist was consulted and laparoscopic uterine suspension was performed. During the follow-up, the right hydronephrosis subsided, and she was free of hematuria and renal colic pain. Uterine retroversion occurs in 20%-30% of women and is often an asymptomatic normal variant. In our case, the mass effect of the retroverted uterus which changed the uterine axis caused the obstructive uropathy. We suggest that laparoscopic uterine suspension is a curative and minimally invasive treatment. (*FJMM* 2007; 5 (1) : 53-56)

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## INTRODUCTION

### BACKGROUND

A 24-year-old woman (gravida 0, parity 0) without a history of urolithiasis came to the emergency department due to acute renal colic pain. A physical examination revealed right back knocking pain. Urinary analysis revealed microscopic hematuria (red blood cells (RBCs) of 5-7 under high-power-field microscopy), during her menstrual period; the pregnancy test was negative. Abdominal

plain radiography showed no radiopaque lesions in the urinary collecting system. Renal ultrasonography revealed mild right hydronephrosis (Fig. 1). Laboratory studies disclosed normal renal function (blood urea nitrogen of 10 mg/dL and serum creatinine of 0.9 mg/dL). Intravenous pyelography revealed mild right hydronephrosis with an unnatural lateral deviation of the right ureter (Fig. 2). Obstructive uropathy due to external mass compression was suspected. Abdominal computed tomography revealed uterine retroversion (Fig. 3), and the

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Submitted May, 08, 2006; final version accepted March, 25, 2006.

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retroverted uterus was compressing the right ureter inducing unnatural lateral deviation. After consultation with a gynecologist, laparoscopic uterine ventrosuspension to the round ligaments was performed. The uterus was repositioned in an anteverted position, and the round ligament closest to the uterine cornua was ligated with sutures to the rectus sheath with unabsorbable suture material (Fig. 4). During follow-up, the right hydronephrosis subsided, and she was free of hematuria and renal colic pain.

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Hydroureteronephrosis due to uterine retroversion was the major cause of the acute renal colic pain in this patient. Pelvic organ prolapse or uterine retroversion is a distressing condition as it causes discomfort with daily activities as well as with sexual activity<sup>7</sup>. Uterine retroversion-related infertility or painful uterine retroversion has also been described<sup>8</sup>. Acute renal failure in association with bilateral ureteral obstruction and hydronephrosis was described in patients with uterine prolapse or



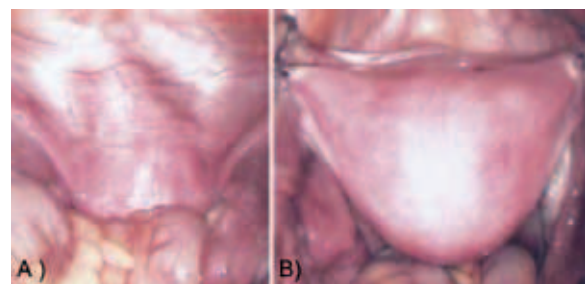
**) W** Renal ultrasonography illustrating mild right hydronephrosis.



**) W** Intravenous pyelography illustrating significant lateral deviation of the right ureter (arrow).



**) W** Abdominal CT illustrating uterine retroversion (large arrow) which produced a mass effect on the right ureter (small arrow).



**) W** Operative findings. A) Uterine retroversion; B) laparoscopic uterine ventrosuspension.

pregnancy<sup>></sup> .<sup>@</sup> In patients with hydronephrosis related to pelvic organ compression, pregnancy should first be ruled out. Hydronephrosis of pregnancy is characterized by ureteral dilatation from progesterone-induced smooth muscle relaxation and mechanical pressure of the gravid uterus resulting in hydronephrosis<sup>></sup> .<sup>@</sup> Uterine retroversion occurs in 20%-30% of women and is often an asymptomatic normal variant<sup>></sup> .<sup>@</sup> Surgical correction is indicated when it becomes symptomatic, such as infertility or distress during sexual activity<sup>></sup> .<sup>@</sup> The retroverted uterus had displaced the cervix into the anterior wall of the vagina and compressed the right ureter in our case<sup>></sup> .<sup>@</sup> Laparoscopic ventrosuspension of the uterus will result in eliminating extrinsic compression to the right ureter and cure the symptoms of hydronephrosis and renal colic pain<sup>></sup> .<sup>@</sup> The traditional surgical treatment for ureterovaginal prolapse has been a hysterectomy in aged women or when future fertility is not desired<sup>></sup> .<sup>@</sup> With the advance in surgical techniques, laparoscopic uterine suspension provides an effective, durable procedure for uterine preservation.

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## 子宮後傾導致單側腎水腫及急性腎絞痛：個案報告

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**背景和目的：**子宮後傾或脫垂於婦科並不少見，一般大多不具症狀或症狀輕微不需侵入性治療。但是當明顯造成不孕、疼痛或尿滯留時，則需輔以手術矯正。手術方法則有傳統開腹手術及腹腔鏡子宮懸吊術。**個案報告：**一名 24 歲女性，未有懷孕或生產史，因急性腎絞痛而至急診求助。腎臟超音波發現輕度右腎積水。而腎盂造影則發現右側輸尿管有向外側偏移現象，疑受骨盆腔腫塊壓迫。腹部電腦斷層則顯現子宮後傾合併壓迫右側輸尿管。在腹腔鏡子宮懸吊術之後，患者之腎積水及腎絞痛症狀完全康復。**討論：**子宮的解剖位置改變常見於多產婦。在未有懷孕及生產史的患者，子宮後傾通常為無症狀的先天變異。但是在我們的病例報告中，因子宮後傾而導致之輸尿管壓迫及腎積水可以說是相當罕見。腹腔鏡子宮懸吊術將子宮復位，是微創手術同時也具有滿意的療效。(輔仁醫學期刊 2007；5(1)：53-56)

**關鍵字：**子宮後傾、腎積水、腹腔鏡子宮懸吊術