

# An unusual complication of uterine prolapse

## *Bilateral severe hydronephrosis*

Tekin Durukan, MD, Tulay Ozlu, MD, M. Coskun Salman MD, Nihal Sahin, MD, Ozgur Kara MD.

### ABSTRACT

قد يتم رؤية اعتلال المسالك البولية الإنسدادي مع استسقاء كلوي على الجانبين في حالات تدلي الرحم. إن المعالجة المبكرة قد تحمي من تلف الكلى اللامقلوب. وعلى الرغم من معرفة هذا الاتحاد منذ وقت طويل، إلا أنه لا يزال تحت التقييم من الناحية السريرية معظم الوقت. نستعرض هنا حالة لسيدة تبلغ من العمر 64 عاماً تعاني من حالة مهمة لتدلي كامل للرحم، كما تبين أيضاً أنها تعاني من توقف في وظيفة الكلى. بعد التعديل الجراحي لتدلي الرحم عادت اختبارات وظيفة الكلى إلى المعدل الطبيعي.

Obstructive uropathy with bilateral hydronephrosis may be seen in uterine procidentia cases. Early recognition and treatment can prevent irreversible renal damage. Although this association has been known for a long time, it is clinically under evaluated most of the time. Here, we present a neglected case of total uterine procidentia in a 64-year-old woman who was detected also to have renal dysfunction. After surgical correction of procidentia, renal function tests returned to normal.

*Saudi Med J 2008; Vol. 29 (10): 1504-1506*

From the Department of Obstetrics and Gynecology, Faculty of Medicine, Hacettepe University, Ankara, Turkey.

Received 8th April 2008. Accepted 18th August 2008.

Address correspondence and reprint request to: Dr. Tulay Ozlu, Department of Obstetrics and Gynecology, Hacettepe University, Faculty of Medicine, Sıhhiye, Ankara, Turkey. Tel. +90 (312) 3051801. Fax. +90 (312) 3116372. E-mail: tulaybozkurt2@yahoo.com

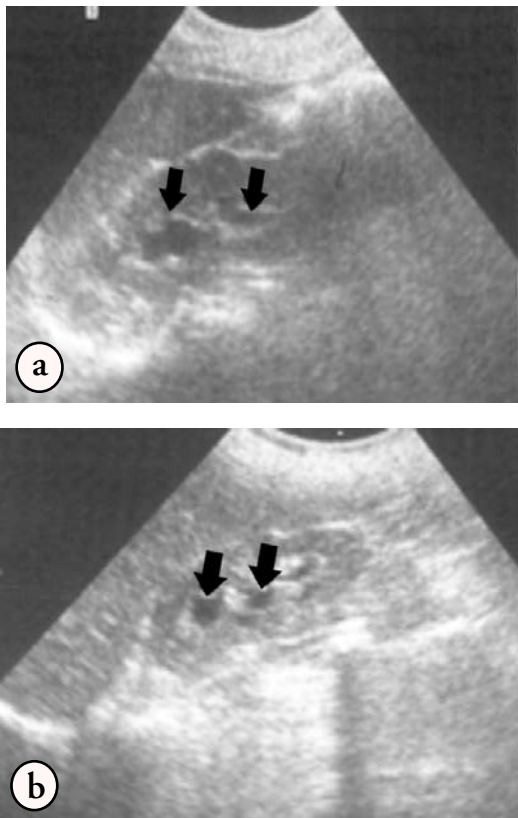
Uterine procidentia, a common problem of postmenopausal women, may lead to voiding dysfunction (obstructive urinary symptoms, urinary urgency, frequency, urinary retention, upper renal compromise, pain, and anuria), defecatory problems (constipation, diarrhea, tenesmus, fecal incontinence), back and flank pain, pelvic discomfort, and dysparunia.

Treatment depends on degree of prolapse and severity of the symptoms. Hydronephrosis associated with uterine prolapse was first described in 1824,<sup>1</sup> and many other cases have been reported since then. In spite of this, it is clinically under evaluated most of the time. However, early recognition and correction of the disorder has great importance to prevent irreversible renal damage. The exact mechanism of obstruction is not known, however, it is proposed to be caused by ureteral compression, severe urethral angulation, or elongation and narrowing of the distal ureters. Here, we represent a neglected case of total uterine procidentia causing renal dysfunction, and the dramatic improvement of the renal function tests after surgical correction of the procidentia.

**Case Report.** A 64-year-old woman with a history of 7 vaginal deliveries admitted with a complaint of a protruding tissue out of the vagina, which was present for the last 3 years. She had difficulty in voiding and she used to push the protruding tissues inwards to manage normal urination. Pelvic examination revealed total uterine procidentia (Figure 1). Her creatinine value was 2.34 mg/dl (normal range: 0.6-1.2 mg/dl), and blood urea nitrogen (BUN) value was 33 mg/dl (normal range: 7-18 mg/dl). Her past medical history was uneventful except for gastritis. Renal ultrasound showed bilateral severe hydronephrosis (Figure 2) without any stones and with normal renal parenchyma. Upon investigation by the urology and the nephrology units, increased creatinine was explained to be due to uterine procidentia, and no other possible cause could be detected. For surgical correction of the procidentia, vaginal hysterectomy, anterior colporrhaphy with Kelly Kennedy plication and posterior colporrhaphy were performed. One week after the surgery, the creatinine value decreased to 1.4, and the control renal ultrasound showed mild to moderate dilatation of the renal collecting system. Two months after surgery, renal ultrasound examination showed bilateral mild renal pelvic dilatation. The blood creatinine value was 1.2 mg/dl, and the BUN value was 28.4mg/dl.



**Figure 1** - Total uterine procidentia.



**Figure 2** - Preoperative renal ultrasound images of the patient demonstrating severe hydronephrosis in the a) left and the b) right kidneys.

**Discussion.** The most common indication of hysterectomy in the United States in women aged over 55 years is reported to be pelvic organ prolapse.<sup>2</sup> It may be seen in varying degrees, from mild to total procidentia. The patient symptomatology is also diverse such as, urinary or defecatory problems, a bulging of tissue to or beyond the vaginal opening, the latter being

the most specific symptom. The severity of the urinary symptoms usually does not correlate with the degree of the prolapse. With mild disease, the patient may have urinary incontinence, however, with advanced disease incontinence may totally disappear, and difficulty in voiding may be more prominent. The patient may need manual reduction of the prolapsed tissues for complete voiding. As defined in the literature several times previously, advanced prolapse may also lead to bilateral ureteric obstruction and hydroureteronephrosis.<sup>3</sup> According to the degree of obstruction, the patient may have normal renal function and only mild hydronephrosis, or the obstruction may progressively worsen leading to chronic or even end-stage renal failure if not detected early. Since patients with uterine prolapse are already prone to recurrent urinary tract infections, risk of pyelonephritis and urosepsis further increases in case of hydroureteronephrosis. Early recognition and timed intervention have great importance to prevent these catastrophic results. The prevalence of hydronephrosis in patients undergoing surgery primarily for pelvic organ prolapse was reported to be low (7.7%), however, it increases with worsening prolapse.<sup>4</sup> The mechanism is unclear, however, the proposed theories are compression of the ureters by the uterine vessels, levator ani sling, uterine fundus, severe urethral angulation or elongation and narrowing of the distal ureters.<sup>3</sup> In these patients the intravenous pyelography will show a typical "hourglass" appearance of the bladder since the lower part of the bladder is displaced from the pelvis together with the distal parts of the ureters.<sup>3,5</sup> To relieve the urinary tract obstruction, pelvic organ prolapse should be corrected as soon as possible. This may be achieved by surgery (vaginal hysterectomy, anterior and posterior vaginal repair) or by the use of pessaries. The importance of screening for hydronephrosis in patients with uterine prolapse, and also the importance of pelvic examination in patients with unexplained renal insufficiency, have been mentioned several times in the literature.<sup>3</sup> Early diagnosis of hydronephrosis has critical importance as we mentioned earlier. Screening may not be practical for every patient with prolapse, and it is demonstrated that preoperative detection of hydronephrosis does not change the surgical management of these patients.<sup>4</sup> In patients who are poor surgical candidates, we can apply pessaries and should not leave them untreated. Renal imaging and a strict follow up program may be appropriate for those who are expectantly managed.

Here we presented a neglected case of total uterine procidentia with bilateral severe hydronephrosis and renal dysfunction, that was treated successfully with the surgical correction of the procidentia. With this report we wanted to reemphasize the importance of renal evaluation at least in selected cases with pelvic organ prolapse.

## References

1. Brettauer J, Rubin IC. Hydroureter and hydronephrosis: a frequent secondary finding in cases of prolapse of the uterus and bladder. *Am J Obstet Gynecol* 1923; 6: 696-709.
2. Committee on Practice Bulletins-Gynecology, American College of Obstetricians and Gynecologists. ACOG Practice Bulletin No. 79: Pelvic organ prolapse. *Obstet Gynecol* 2007; 109: 461-473.
3. Young JB, Selby PL, Peacock M, Brownjohn AM. Uterine prolapse and urinary tract obstruction. *Br Med J* 1984; 289: 41-42.
4. Beverly CM, Walters MD, Weber AM, Piedmonte MR, Ballard LA. Prevalence of hydronephrosis in patients undergoing surgery for pelvic organ prolapse. *Obstet Gynecol* 1997; 90: 37-41.
5. Hadar H, Meiraz D. Total uterine prolapse causing hydroureteronephrosis. *Surg Gynecol Obstet* 1980; 150: 711-714.

### Related topics

Soliman KB, Abbas MM, Aref NK, Zada ZM. Emergency cerclage. *A successful challenge despite advanced second trimester cervical dilatation. Saudi Med J* 2006; 27: 544-546.

Unsal MA, Zengin U, Ozeren M, Bozkaya H. Uterine prolapse immediately after labor. *Saudi Med J* 2005; 26: 150-151.

Mawajdeh SM, Al-Qutob RJ, Farag AM. Prevalence and risk factors of genital prolapse. A multicenter study. *Saudi Med J* 2003; 24: 161-165.