

Renal failure secondary to uterine prolapse

S V Chitale, N A Burgess and R Warren

Introduction

TWO cases of renal failure secondary to uterine prolapse are presented. In each case, delays in diagnosis occurred partly because of an inadequate/unhelpful history and partly because of an inadequate examination of the patients.

Case reports

Case 1

A 73-year-old female was referred to the department of geriatric medicine with malaise, lethargy, and swollen feet secondary to chronic renal failure (creatinine 700 $\mu\text{mol/l}$). She had no bothersome urinary symptoms. However, on pelvic examination, stage III uterine prolapse (procidentia) was noted. She admitted having had it for many years. It was not noted on earlier clinical assessments. Bilateral gross hydro-ureteronephrosis was seen on ultrasound scan (Figure 1). There was no post-void bladder residual.

The prolapsed uterus bearing a decubitus ulcer on the cervix was reduced manually and repositioned back in to her pelvis. It was then supported with the help of a 59 mm ring pessary and she was placed on local oestrogen supplements. Her renal function improved over the next 72 hours. A follow-up ultrasound scan showed near-complete resolution of hydronephrosis on both sides (Figure 2) within a week. At nine months follow-up she remained well.

Case 2

An 86-year-old female presented to the nephrologist via her GP with nausea, malaise, urinary frequency, urgency, and backache. Investigations revealed renal insufficiency (creatinine $>300 \mu\text{mol/l}$) and ultrasound scan showed bilateral hydro-ureteronephrosis, with dilated ureters down to the level of the bladder. Pelvic examination revealed stage III uterine prolapse with superficial ulceration of the cervix that she never complained about. She was fitted with a ring pessary after reducing the prolapse and her renal function returned to normal with improvement in her symptoms. Follow-up ultrasound scan showed resolution of hydronephrosis. She was asymptomatic at six months follow-up.

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Discussion

Pelvic organ prolapse in general, and uterine prolapse in particular, are known to be associated with hydronephrosis, with or without renal impairment. Its severity is primarily related to the degree of uterine prolapse. The prevalence of hydronephrosis with uterine prolapse varies from 7% to 17% in patients undergoing surgery for prolapse.^{1,2} The degree of hydronephrosis increases with worsening grade of the pelvic organ prolapse. It is much lower with post-hysterectomy vaginal vault prolapse than with actual uterine prolapse.² Only one case of post-hysterectomy vaginal vault prolapse associated with chronic renal failure has been described in the literature.³ However, to date, three cases of acute renal failure as a consequence of uterine prolapse have been described in the literature.^{4,5} This complication of uterine prolapse is uncommon, but reversible, if detected early and treated appropriately.

Severe degrees of genital prolapse are associated with obstruction of the lower ureters and hydronephrosis. In the presence of a significant degree of uterine prolapse, simple reposition and support of the uterus using a pessary should be undertaken as the primary therapeutic step before even considering invasive procedures, such as nephrostomy or ureteric stenting. If uterine prolapse happens to be the sole underlying problem, then a simple pessary insertion after completely reducing the prolapse can relieve the lower ureteric obstruction, caused by kinking of the ureters as they get dragged down with the prolapsing uterus.³ Awareness of the possibility of such anatomical distortion and its consequences in patients known to have long-standing genital prolapse is important, hence the emphasis on full pelvic assessment in such patients.

We believe this event in the natural history of genital prolapse is under-evaluated and therefore not reported unless these patients come forward for gynaecological surgery.

Incidence of genital prolapse in the elderly female population was reported to be as high as 59% in a series of patients waiting for gynaecological surgery.⁶ In another series, 20% of patients on a waiting list for gynaecological surgery were for repair of genital prolapse.⁷ In a Swedish community-based study, the prevalence of any degree of prolapse in women aged 20 to 59 years was 30.8%.⁸

In an observational study, recruiting women seen for routine gynaecological health care, the stage-wise distribution of pelvic organ prolapse was as follows: stage 0 — 6.4%; stage I — 43.3%; stage II — 47.7%; stage III — 2.6%.⁹ Major uterine prolapse in this series accounts for 50.3% of cases (age range = 18 to 82 years). The age-specific incidence of surgically managed prolapse increased with advancing age and the lifetime risk of undergoing surgery for prolapse by the age of 80 years was 11.1%.¹⁰

Pelvic floor dysfunction, including pelvic organ prolapse, is reported to be an extremely common condition, affecting

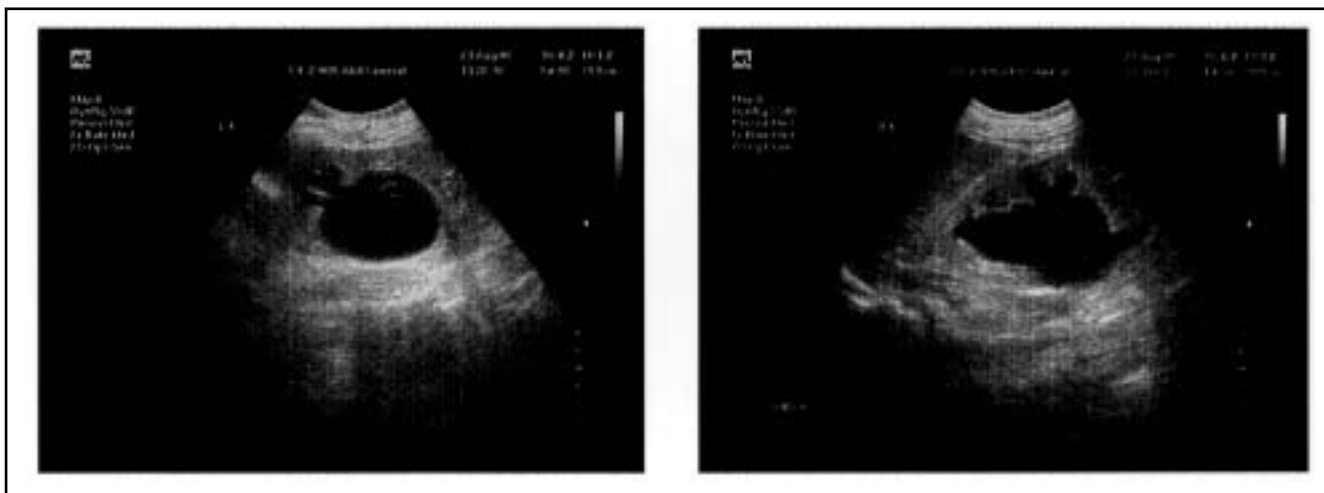


Figure 1. Ultrasound scan showing bilateral hydronephrosis prior to pessary insertion.



Figure 2. Follow up ultrasound scan showing complete resolution of hydronephrosis after pessary insertion.

at least one-third of adult women. However, only a minority volunteer their symptoms,¹¹ as is the case with various other clinical conditions, and this trend increases with increasing age. As a result, only those undergoing surgery for their prolapse have the benefit of preoperative renal imaging to rule out hydronephrosis, with or without renal impairment. Hence, the true incidence of hydronephrosis related to prolapse will remain underestimated and its prevalence in the asymptomatic patients in the community unclear, until they present with unrelated vague symptoms at a later stage.

Incidence of prolapse is expected to be on the decline, owing to improved care during labour and reduced duration of stages 1 and 2, and also owing to reduced family size and reduced parity. However, for the present generation of elderly women, we ought to entertain the possibility of genital prolapse and its associated risk of chronic renal impairment when they present with a variety of ill-defined symptoms.

References

- Gemer O, Bergman M, Segal S. Prevalence of hydronephrosis in patients with genital prolapse. *Eur J Obstet Gynecol Reprod Biol* 1999; **86**(1): 11-13.
- Beverley CM, Walters MD, Weber AM, *et al.* Prevalence of hydronephrosis in patients undergoing surgery for pelvic organ prolapse. *Obstet Gynecol* 1997; **90**(1): 37-41.
- Meiser M, Miles BJ, Kastan D, *et al.* Chronic renal failure secondary to post-hysterectomy vaginal prolapse. *Urology* 1991; **38**(4): 361-363.
- MacKenzie TM, Chan LW, Yuen PM, *et al.* Uterine prolapse and acute renal failure in a Chinese patient. *Aust NZ J Obstet Gynecol* 1995; **35**(4): 461-462.
- Yanik FF, Akpolat T, Kocak I. Acute renal failure – an unusual consequence of uterine prolapse. *Nephrol Dial Transplant* 1998; **13**(10): 2648-2650.
- Lewis AC. Major gynaecological surgery in the elderly. *J Intern Fed Gynaecol Obstet* 1968; **6**: 244-258.
- Stallworthy JA. Prolapse. *BMJ* 1971; **1**: 499-500; 539-540.
- Samuelsson EC, Arne-Victor FT, Tibblin G, Svarsdudd KF. Signs of genital prolapse in a Swedish population of women 20 to 59 years of age and possible related factors. *Am J Obstet Gynecol* 1999; **180**: 299-305.
- Swift SE. The distribution of pelvic organ support in a population of female subjects seen for routine gynaecologic health care. *Am J Obstet Gynecol* 2000; **183**: 277-285.
- Olsen AL, Smith VJ, Bergstrom JO, *et al.* Epidemiology of surgically managed pelvic organ prolapse and urinary incontinence. *Obstet Gynecol* 1997; **89**: 501-506.
- Bump RC, Norton PA. Epidemiology and natural history of pelvic floor dysfunction. *Obstet Gynecol Clin North Am* 1998; **25**: 723-724.