

# Uterine Prolapse as a Cause of Chronic Renal Failure

## *Uterin Prolapsusa Bağlı Kronik Böbrek Yetmezliği*

### ABSTRACT

Uterine prolapse, common in old and multiparous women, has been reported as a rare cause of obstructive uropathy. In this case, the management of a 75-year-old female patient who presented at the outpatient clinic with a history of anuresis and diagnosed with total uterine prolapse, bilateral hydronephrosis, urinary infection and acute renal failure is presented. The renal failure clinical picture regressed with appropriate treatment. However, the patient refused surgery and chose to have a pessary implemented. Four months after dismissal, she was readmitted to the hospital with recurrent renal failure that required dialysis treatment. The patient did not respond to therapy and was placed on a chronic dialysis program with a diagnosis of end-stage renal disease due to postrenal causes.

**KEY WORDS:** Uterine prolapse, Chronic renal failure, Obstructive uropathy

### ÖZ

Uterin prolapsus, yaşlı ve multipar kadınlarda yaygın olmakla birlikte obstrüktif üropatinin nedeni olarak nadiren rapor edilmiştir. Bu olguda, anüri ile müraccat eden 75 yaşında bir kadın hastada total uterin prolapsus, bilateral hidronefroz, üriner enfeksiyon ve akut böbrek yetmezliği saptanması sunulmuştur. Uygulanan tedavi sonrası böbrek yetmezliği düzelmiştir. Hasta cerrahi tedaviyi reddetmiş ve pesser tedavisini seçmiştir. Dört ay sonra hasta diyaliz gerektirir böbrek yetmezliği tablosu ile yeniden müracaat etmiştir. Hasta tedaviye cevap vermemiş ve postrenal nedenli son dönem böbrek yetmezliği tanısı ile hemodiyaliz programına alınmıştır.

**ANAHTAR SÖZCÜKLER:** Uterin prolapsus, Kronik böbrek yetmezliği, Obstrüktif üropati

### INTRODUCTION

Postrenal acute renal failure (ARF) develops as a result of diseases that are caused by the acute obstruction of urinary system and constitutes 5% of all ARF cases. Among the most frequent causes are prostate diseases, neurogenic bladder, use of anticholinergic drugs, urinary stones, clots, metastatic tumor infiltrations or pressure from exterior sources. Early management of the obstruction generally leads to reversal of renal failure, but if left untreated or if treated at a later stage, chronic renal failure may develop.

Uterine prolapse is the downward displacement of cervix and uterus from the vaginal axis. In the advanced form, the

cervix is located outside of the introitus vagina. The prolapsed vagina might fall out on the urethra and the bladder at the anterior part and distal rectum at the posterior part. The severity of the prolapse is determined from the relation between the cervix and vaginal introitus (2). Renal failure caused by uterovaginal prolapse is rare.

In this case, we report a 75-year-old patient who developed chronic renal failure due to obstruction and was placed in a renal replacement program.

### CASE

A 75-year-old female (gravid 5, para 5) was admitted to our nephrology outpatient unit with asthenia, fatigue, dysuria and

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difficulty when urinating. Personal or family history was non-specific. Physical examination revealed a systolic and diastolic blood pressure level of 130/60 mmHg and globus vesicalis. Total (stage 4) uterine prolapse was detected at pelvic examination (Figure 1). White blood cell count was 10.700/mm<sup>3</sup>, hemoglobin 8.6 gr/dl, serum urea 202 mg/dl, creatinine 5.82 mg/dl, albumin 3.1 g/dl, sodium 138 mEq/L, potassium 6.3 mEq/L, calcium 9.1 mg/dl, phosphorus 6.5 mg/dl. There was a dominance of leukocytes on urinalysis.



**Figure 1:** Appearance of total vaginal prolapse of the patient before the reduction.

Bilateral grade 2-3 hydronephrosis and dilation in pelvicaliceal structures was detected in the abdominal ultrasonographic examination. The patient was hospitalized and third-generation cephalosporin (ceftriaxone 1 gr/day) was started empirically for urinary tract infection. Microbiological evaluation by urine culture showed presence of *E. coli*.

The patient was consulted with the gynecologists for the uterine prolapse and the prolapse was corrected manually. A foley catheter was placed in the urethra. With this treatment, the patients' urine volume returned to normal levels. Consequently, serum urea and creatinine values regressed to the normal range (82 and 2.5 mg/dl at discharge, respectively). Even though a pessary application or an alternative operation was proposed, the patient refused to undergo any kind of surgical approach. After discharge, the patient was lost-to follow-up until she was seen at the emergency room with complaints of fatigue, nausea and vomiting. The patient underwent hemodialysis due to the uremic findings. The pessary application remained insufficient for the reduction of prolapse in the patient and recurrence of the hydronephrosis was observed on the follow-up ultrasonography. The patients' renal failure did not respond to treatment and she was put on a chronic hemodialysis program.

## DISCUSSION

Despite mostly being acute, postrenal causes may progress to chronic renal failure if the underlying cause is not treated.

Pelvic organ prolapse (POP) is relatively frequent in elderly women (1). Its etiology is considered to be multifactorial and the incidence and prevalence of pelvic organ prolapse increases with aging. POP prevalence increases at a rate of 40% every 10 years. Having the first birth before the age of 25, multiple births, history of hysterectomy, menopause, hormone replacement therapy use, pelvic neuropathy and congenital causes may lead to the development of chronic constipation that promotes the prolapse (1). The fact that our patient had an advanced age and was a multiparous woman could have contributed to the occurrence of the uterine prolapse.

In a study by Ellerkmann et al, 237 women with prolapse were investigated and symptoms of prolapse (63%), urinary incontinence (73%), urination dysfunction (62%), and fecal incontinence (31%) were found in these patients (2). Repair of the prolapse is the suggested method to treat urination problems, stress and urge incontinence in more than half of the patients.

Generally, uterine prolapse may cause hydronephrosis regardless of an accompanying renal failure. The severity of hydronephrosis is related to the severity of the prolapse (2). Chuang et al. reported bilateral hydronephrosis with normal renal functions in 2 patients with uterine prolapse and recovery from hydronephrosis by surgical treatment of the prolapse (3). The authors emphasized the importance of early diagnosis and treatment for the protection of renal functions. Hydronephrosis caused by uterine prolapse may cause acute or chronic renal failure unless an intervention is performed at an early stage. Chitale et al. also reported bilateral hydronephrosis with ARF due to uterine prolapse in two patients aged 73 and 81, and they stated recovery from ARF by manual reduction and pessary application (4).

Chronic hydronephrosis and recurring urinary infections are thought to have an effect on development of ESRD. ESRD development was reported by Sanai et al. in a 64-year-old case known to have uterine prolapse (5).

In our case an uterine prolapse-induced ESRD was observed. The renal failure of our case was related to obstruction and urinary infection during the first hospital admission and it receded with the help of manual reduction, intravenous liquid and antibiotherapy. However, the patient rejected surgery for treatment of the prolapse and chose to have a pessary inserted. Unfortunately, the patient did not attend her follow-up visits and had an irregularly applied pessary, which, 4 months after the first admission, necessitated renal replacement therapy due to ESRD.

In conclusion, uterine prolapse is a rare cause of postrenal ARF. Pessary application and surgery are suggested for the treatment. Unless the obstruction is removed at an appropriate time, ESRD is almost unavoidable.

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