CASE REPORT

Renal dysfunction due to advance pelvic organ prolapse

Lubna Razzak, Sherjeel Saulat

Abstract

Uterovaginal prolapse is the downward descent of the pelvic organs, resulting in protrusion of the vagina, uterus, bladder or rectum. The association between POP and hydronephrosis has been shown by various studies, but severe hydronephrosis that leads to renal dysfunction is rarely seen. We report the case of a 70 year old female with massive vaginal prolapse and chronic renal impairment. She presented with urinary tract infection (UTI) and raised creatinine levels of 4.5mg/dl. After the treatment of UTI, we surgically managed to treat her obstructive symptoms. After surgery her creatinine levels dropped to 2.0mg/dl but chronic renal failure persisted. Advanced stage prolapsed may damage renal function if left untreated. Timely diagnosis and management may help to prevent irreversible damage to kidneys.

Keywords: Renal failure, pelvic organ prolapse, Hydronephrosis, Obstructive nephropathy

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Introduction

Uterovaginal prolapse is the downward descent of the pelvic organ, resulting in protrusion of the vagina, uterus, bladder or rectum.[1] The prevalence of pelvic organ prolapse (POP) in the general population is about 14%, where as age advances it and increases the risk up to 64.8%.[2] The prevalence of POP in rural Pakistan as shown by Jokioetal is12.1%.[3] The association between POP and hydronephrosis has been shown by various studies[4] but severe hydronephrosis that leads to renal dysfunction are rarely seen.We report a case of renal dysfunction with bilateral hydronephrosis caused by massive uterovaginal prolapse.

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Case Report

A 70 year old female having 4 vaginal deliveries, had a sensation of something coming out of the vagina since 20 years and was unable to reduce it. She was referred to the emergency department of Tabba Kidney institute, Karachi on 10th of December 2019 with complaints of nausea, vomiting and raised creatinine levels. She had the history of hesitancy, sense of incomplete void, and difficulty in passing stool. She also complained of heaviness and pressure symptoms. She had no concomitant disease except for hypertension for 1 year. However, on taking the history it was revealed that she had not taken any medical help for these symptoms because of social taboos (feeling embarrased to discuss her problems with her children). On physical examination, her temperature was 36.8^{O}C, blood pressure was 130/80 mmHg, pulse rate 73 beats/min, and respiratory rate was 20 breaths/min. Her examination noted complete vaginal eversion (Pelvic Organ Prolapse Quantification [POP-Q] scores: Ba +10; Bp +10; C + 10; and total vaginal length [TVL] (Figure-1). The blood investigations showed an increased inflammatory response with total leucocyte count 14*10^{9}/l, C-reactive protein 92 and creatinine 4.5 mg/dl blood urea nitrogen 90 mg/dl. Bilateral gross hydronephrosis and hydroureter was noted on ultrasound scan (Figure-2). The patient was admitted in the hospital for treatment of urinary tract infection, determined by urine culture and sensitivity. She was initially treated with bladder drainage through catheterization and antibacterial therapy. After 1month, vaginal hysterectomy, Mc Call culdoplasty with pelvic floor repair was performed to relieve her obstructive symptoms. (Figure-3) There were no post operative complications and the patient was discharged on the 3rd post operative day.

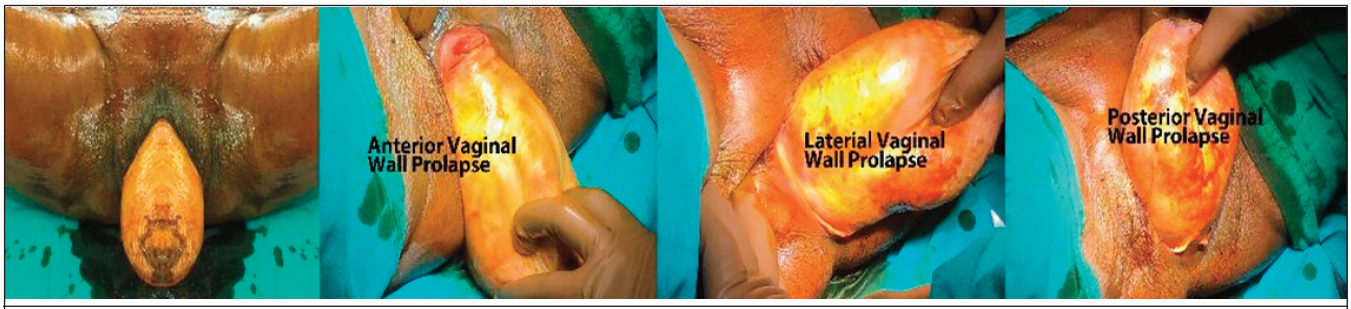

Figure-1.

Figure-2.

Figure-3.

At the 3 month followup, renal hydronephrosis had disappeared in the repeated ultrasound, creatinine was 2.0 mg/dl and she was doing well. She had developed irreversible renal dysfunction and was managed conservatively.

Discussion

Pelvic organ prolapse (POP) may affect the quality of life, but as prolapsed advances and negligence leads to damage to the vital organs of the body, as in our case. The risk factors for prolapse are multifactorial, including multiple pregnancies, obesity, chronic constipation, heavy weight lifting, family history, vaginal delivery, connective tissue disorders, previous hysterectomy, and injury to the levator ani muscles.[5] As in our case multiple vaginal delivery, constipation and heavy weight lifting could be the cause of prolapse. The symptoms associated with prolapse, include pressure symptoms, urinary symptoms, defecatory dysfunction and sexual problems. With advancing prolapse, women have voiding dysfunctions which include a slow urinary stream, a sensation of incomplete bladder emptying and even complete urinary retention.

Obstruction of Urinary tract, leading to increase post void residuals which may cause urinary tract infections, including urosepsis, hydronephrosis, hydroureter and acute or chronic kidney injury.[6] If not treated appropriately, the possibility of hydronephrosis in stage 3 or 4 prolapse is present because of kinking of the ureters, causing a backpressure effect and increased intratubular pressure may affect glomerular function that leads to renal failure. The ureters enter into the pelvis by crossing the bifurcation of the common iliac vessels, pass anteromedially towards the bladder base beneath the uterine vessels and 1.5 cm lateral to the cervix. When entering into the bladder, the ureters sit upon the upper third of the anterior vaginal wall.[7] DeLancey et al. had described the relationship of the cervix with the ureter. According to him, for every 1cm descent of the ureter, there is a 3cm descent of the cervix.[8] Descent of ureter along with prolapsed cervix is also explained by Hussein et al.[9] through computerised tomography. In his report he demonstrated prolapsed distal ureter outside the vagina in stage 4 uterovaginal prolapse.

The pelvic organ prolapse can be managed conservatively and surgically. Conservative management includes vaginal pessary. These pessaries are inserted into the vagina to provide support to the pelvic structures. The complications associated with these devices are vaginal discharge, odour, bleeding, impaction and vesicovaginal and rectovaginal fistula.[10] Therefore regular follow-up treatment is recommended for patients using a vaginal pessary. There are various surgical options available for POP treatment which includes colpocleisis, colposuspension, vaginal hysterectomy, and anterior or posterior colporrhaphy.[1]

Women feels hesitant, anxious, shameful and have the fear of rejection. Because of these negative emotions, POP remains undiagnosed, untreated and leads to serious complications[1] as in our patient. For maintenance of renal function we performed surgery and advised life style modification to avoid the risk of recurrence.

Conclusion

In conclusion, advance stage prolapsed may damage the renal function if left untreated. Timely diagnosis and management may prevent irreversible damage to kidneys. Information should be provided to the patient regarding complications of POP, encouraging adequate follow-up visits and timely check-ups.

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