Cerrahpaşa Med J 2023; 47(2): 235-238 CASE REPORT

Uterine Prolapse Associated with Voluminous Enterocele Which Caused Severe Kidney Malfunction: A Case Report

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Cite this article as: Șerbănescu L, Brezeanu D, Brezeanu AM, Tica VI. Uterine prolapse associated with voluminous enterocele which caused severe kidney malfunction: A case report. *Cerrahpaşa Med J.* 2023;47(2):235-238.

Abstract

Uterine prolapse represents the herniation of the uterus into or beyond the vagina as a result of failure of the sustaining ligaments and of the fascia that supports it. When it coexists with prolapse of the vaginal walls, involving the bladder it is called uterine prolapse associated with cystocele and when it coexists with prolapse of the rectum is called uterine prolapse associated with enterocele. The prevalence of the pelvic organ prolapse is uncertain, previous studies showing a prevalence between 2.9% and 41% of women. The following case is that of a 63-year-old patient who required a multidisciplinary approach given the complexity of the case, the comorbidities associated with the pathology and the patient's personal pathological history.

Keywords: Enterocele, uterine prolapse, vaginal hysterectomy, urogynecology

Introduction

Uterine prolapse represents the herniation of the uterus into or beyond the vagina as a result of failure of the sustaining ligaments and of the fascia that supports it. When it coexists with prolapse of the vaginal walls, involving the bladder, it is called uterine prolapse associated with cystocele and when it coexists with prolapse of the rectum it is called uterine prolapse associated with enterocele.[1]

When the anterior wall of the vagina and the bladder are involved alone it is called cystocele, when the posterior wall of the vagina and the intestines are implied, it is called enterocele, and when the uterus, vaginal wall, bladder, and the intestines are implied altogether it is called pelvic organ prolapse.[2]

The prevalence of the pelvic organ prolapse is between 2.9% and 41%, although it may be underdiagnosed. About 90% of the cases, are diagnosed in the first or second stage.[3,4]

The risk factors for pelvic organ prolapse include **Body Mass Index** (BMI) > 25, menopause, multiparity including vaginal or caesarean delivery, and connective tissue disorders such as Marfan syndrome and Ehlers Danlos syndrome.[5]

There is not a main symptom for the pelvic organ prolapse; most of the patients' complaints include vaginal pressure, increased urinary frequency and urgency, dyspareunia, and symptoms related with the possible infection of the cervix if the prolapse of the uterus is in an advanced stage.[6]

Diagnosing pelvic organ prolapse can be a difficult task, especially for the first and second degrees. When the clinician diagnosed a uterovaginal prolapse, he should indicate both the anatomical abnormality and the severity of the prolapse. For the **correct** diagnosis, direct visualization of the prolapsed segment, Valsalva maneuver, or the pelvic organ prolapse quantification can be used, which can be a useful tool for a standardized diagnosis of the prolapse.[7]

Regarding the paraclinical examination of the uterine prolapse, there are no laboratory tests that have been shown utility in the diagnosis of uterine prolapse. Prolapsed segments can be seen on multiple imaging modalities such as ultrasound, computerized tomography, and magnetic resonance imaging, and those may help to confirm the diagnosis, but they do not represent a golden standard.[8]

Treatment for the pelvic organ prolapse may include education of the patient and medical and surgical methods.[9-11]

The educative methods may include losing weight and pelvic muscle training by Kegel exercises in association with a physiotherapist where also the Emsella chair can help.[9]

The medical options include the vaginal pessaries and laser interventions. Vaginal pessaries may be a solution in 84% of cases in mild prolapse of the genital organs. Complications of pessary placement include vaginal irritation/ulceration, discharge, pain, bleeding, and odor.[10,11]

The surgical options include uterus preservation which is called hysteropexy or hysterectomy. The hysterectomy can be performed by laparoscopic approach, by vaginal or transabdominal way.[12]

Another surgical method that includes the preservation of the uterus is called colpocleisis which is considered safe and efficacious. After a detailed discussion with the patient regarding the desire for future vaginal intercourse, the doctor can choose this type of intervention if the patient has no future desire for sexual intercourse.[13]

Case Report

A 66-year-old woman, G6P5, presented to the emergency department with complaints of abdominal pain for 2 weeks, dysuria for 12 hours, and severe lumbar pain that irradiates to the right foot.

Her obstetrical history was marked by 5 spontaneous births at 39 weeks of gestation and a spontaneous miscarriage at 6 weeks

Received: December 13, 2022 **Accepted:** March 28, 2023
Publication Date: August 22, 2023
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DOI: 10.5152/cjm.2023.22121

of gestation with no curettages. There was no history of bleeding or trauma during the history of the pathology.

The personal pathological history included vitiligo and diabetes mellitus type II, and also, from the personal pathological history, we found that the patient had arterial hypertension, second degree, overweighted, and depression.

Personal pathological antecedents include an admission to another hospital, 3 months prior to this admission, with a diagnosis of bilateral fourth-degree hydronephrosis and acute kidney injury. Two ureteral stents were fitted, and 1 month after their placement, she developed pyelonephritis in the left kidney, necessitating the removal of the stent at this level.

Physical examination found that her height, weight, and BMI were 160 cm, 73 kg, and 28.5 kg/m^2, respectively. That placed her in the overweight category of patients. Vitiligo marks all over her body were also found. No other scars or marks were noted on physical examination.

The blood pressure was within normal range, but the patient related that she was on antihypertensive medication for the last 15 years when the hypertension was discovered.

On paraclinical examination, the biochemical analyses revealed a microcytic hypochromic anemia, with a hemoglobin of 9 g/dL, thrombocytopenia of 109 000/dL, an increased urea of 71 mg/dL, and a creatinine of 1.96 mg/dL.

A computer scan and an echography were performed, and the patient was first admitted to the urology department with the diagnosis of bilateral second-degree hydronephrosis, urethritis, and rectocele.

Under sedation, stenting of the left kidney was attempted with consecutive pyuria, which is why the maneuver was canceled and a gynecological examination was requested.

During a genital examination we found total pelvic organ prolapse with total uterine prolapse, cystocele associated with urethrocele and a very important enterocele, and rectocele, as shown in Figure 1. The patient was transferred in the gynecology department.

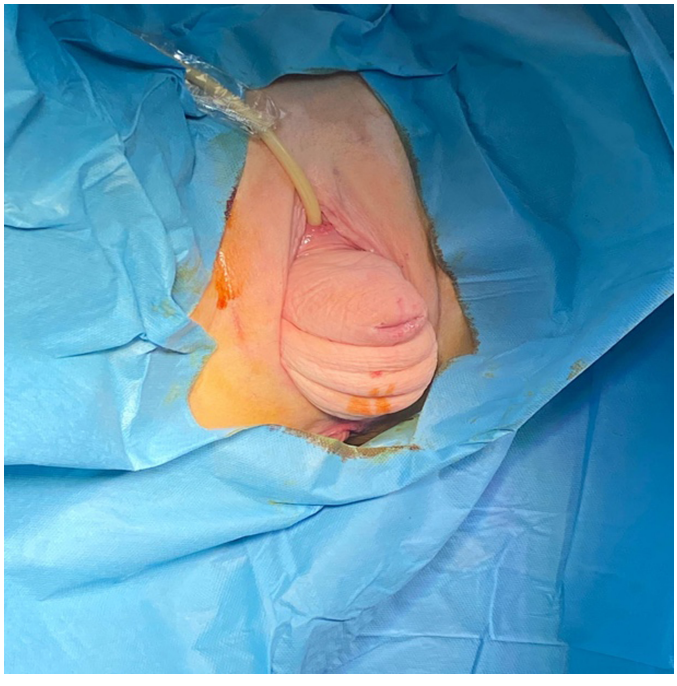

Figure 1. Preoperatory image: total pelvic organ prolapse with voluminous enterocele (personal collection).

Another paraclinical examination was performed in our department, and the biochemical analyses revealed a microcytic hypochromic anemia, with a hemoglobin of 8.1 g/dL, thrombocytopenia of 101 000/dL, an increased urea of 71 mg/dL, and a creatinine of 1.96 mg/dL.

The Papanicolaou smear and the vaginal secretion, which were collected during the genital examination, were within normal range.

The patient was operated in the gynecology department, where we performed a total inter-ovarian hysterectomy, with consecutive cystocele and enterocele treatment.

First step was to denudate the excessive vaginal mucosa, and then to reveal the urinary bladder and the enterocele hernial sack, as seen in Figures 2 and 3.

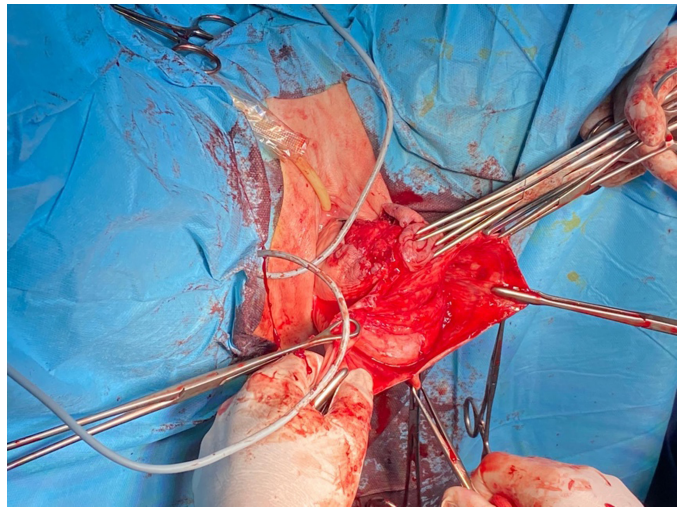

Figure 2. Intraoperatory image: voluminous enterocele with high vaginal mucosa excess

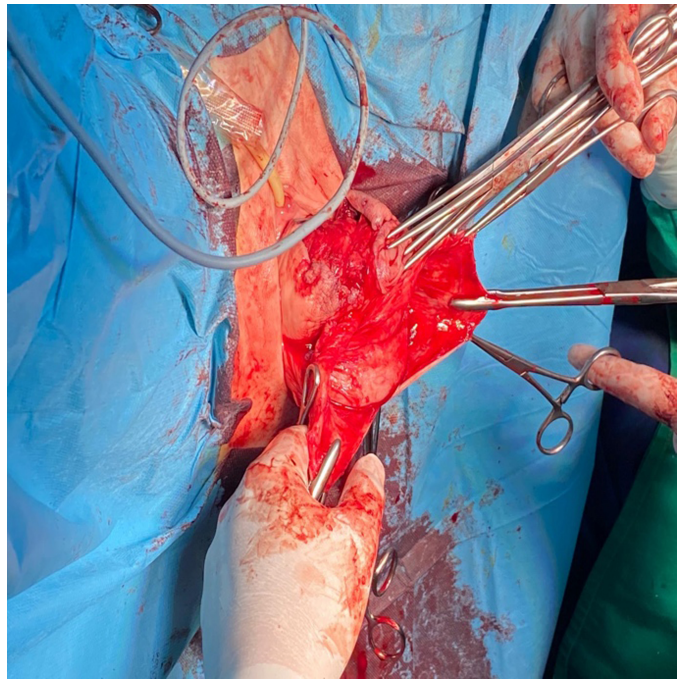

Figure 3. Intraoperatory image: denudation of the excessive vaginal mucosa, revealing the urinary bladder and the enterocele hernial sack

Figure 4. Postoperatory image: 40th-day follow-up

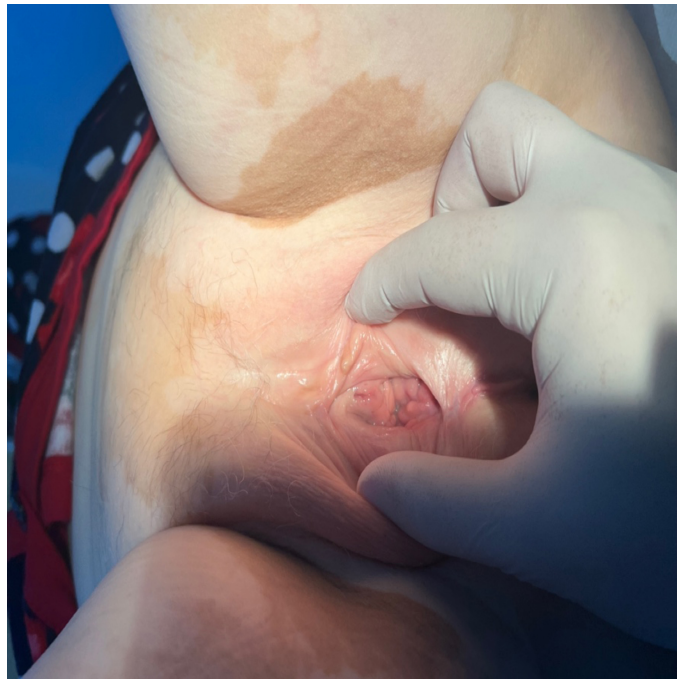

Figure 5. Postoperatory image: resolution of the pelvic organ prolapse with no associated vaginal vault prolapse

After the excess mucosa was removed, total inter-ovarian hysterectomy with anterior and posterior colporrhaphy was performed.

Even though the intervention was as minimal as it could have been, there was some important bleeding, so we decided to administrate intra- and postoperatively 3 units of packed red blood cells and 3 units of fresh-frozen plasma.

Outcome and Follow-up

During the immediate postoperative period, the patient received 3 units of packed red blood cells and 3 units of fresh-frozen plasma.

Postoperatively, the patient was managed in the intermediate care unit, and after less than 24 hours observation, she was stable enough to be moved to the genecology ward the next day.

After 5 days of hospitalization, the patient was discharged, with mild anemia with a hemoglobin of 9 g/dL and recommendations of returning after 40 days postsurgery.

After 40 days postsurgery, the patient was admitted in the gynecology department for follow-up, and after a urological consult the right stent was extracted. The paraclinical examinations were within normal range with a hemoglobin of 10.3 g/dL, normal thrombocytes, mild elevated creatinine of 1.2 mg/dL, and a urea of 65 mg/dL.

On the clinical examination, there was not any sign of cystocele or rectocele, and the vaginal vault was in the right place as shown in Figures 4 and 5.

Discussion

There are multiple particularities of this case that mention to be discussed.

First thing to be mentioned is the accuracy of the physical examination. As we mentioned in the "Introduction" section, the sensitivity and specificity in the case of the physical examination can go up to 73%, respectively, especially in the third- and fourth-degree prolapse.[14]

The final method of treatment should be considered after a close talk with the patient. We decided for a vaginal hysterectomy because of the less risk of injury bladder and the intestines.[15]

Vitiligo is an autoimmune disease of the skin that targets pigment-producing melanocytes and results in patches of depigmentation that are visible as white spots. To avoid rejection of the mesh, we could not use heterologous material, which is why the reconstruction of the vagina has been made with autologous material.[16]

Another aspect that should be discussed is that of the personal physiologic and pathological history. Our patient was a multipara, overweight, menopause patient, with multiple comorbidities, so the risk for developing pelvic organ prolapse was very high.[17]

A meta-analysis of the Cochrane Incontinence Group Specialized Register which included 56 randomized controlled trials on 5954 women has concluded that abdominal sacral colpopexy with consecutive high vaginal uterosacral suspension by laparoscopic way is superior to transvaginal intervention, but for this kind of intervention there are required some certain skills in order to perform it.[18]

The final aspect to be discussed is that after the cure of cystocele and urethrocele the hydronephrosis was solved and the renal insufficiency was also solved, with no needs of other ureteral stent. Acute or chronic kidney injury due to uterine prolapse could be caused by urethral stricture or narrowing of the ureter due to traction from the bladder.[19]

Conclusion

The most important fact that should be evidenced by this paper is the increase in quality of life for the patient. After the surgical intervention, the patient relates that her life returned to normal.

For this kind of problems, the vaginal intervention is clearly superior to the abdominal intervention, being burdened by fewer intra- and postoperative risks.

The risk of prolapse of the vaginal vault with the recurrence of complications must be considered, so the patient must be educated, in order to change the lifestyle.

Ethics Committee Approval: This report complies with the policy of the Ethical Committee of Saint Andrew Hospital Constanta Hospital. Informed consent for Treatment and Research was obtained from the patient.

Informed Consent: Written informed consent was obtained from the patient who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – L.S.; Design – D.B.; Data Collection and/or Processing – D.B.; Literature Search – A.M.B.; Writing Manuscript – B.D.M., V.I.T., S.I.

Declaration of Interests: The authors have no conflict of interest to declare.

Funding: The authors declared that this study has received no financial support.

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