



Paraovarian cyst as the cause of uterine prolapse

Vladimir Čančar¹, Radenko Ivanović¹, Nenad Lalović², Biljana Milinković³, Dragana Sladoje⁴

SUMMARY

Paraovarian cysts originate from the mesothelium and are presumed to be remnants of Müllerian or Wolffian ducts. In majority of cases they are found to be 10–80 mm in diameter and do not cause any symptoms. Paraovarian cysts can be found unexpectedly during an operation or on ultrasound examination performed for other reasons. They are most frequently discovered on ultrasound examination. However, due to the proximity of the ovary for which cystic formations are not rare, the diagnosis of these lesions can be a challenge. They are mostly asymptomatic and only large lesions (≤ 20 cm in diameter) become symptomatic. Although these are mostly benign tumors, in rare cases they can become borderline or true malignancies. Most paraovarian cysts are found in the third and fourth decade of life. Paraovarian cyst complications include: compression of the surrounding structures of the pelvis minor and abdomen, pelvic pain, cyst torsion and rupture.

Except for the already mentioned complications available literature has so far failed to show cases of uterine prolapse caused by an increase of intra-abdominal pressure due to the expansive growth of giant paraovarian cystic formation.

KEY WORDS: uterus, paraovarian cyst, uterine prolapse

INTRODUCTION

Female patient, 26 years old, appeared in the emergency department of our institution due to 24 h urine retention, abdominal pain and the feeling of genital organs protrusion. In the gynaecological anamnesis, the patient gave information about menarche (at the age of 13) and that her menses was regular in rhythm, duration and intensity. She did not give birth and had no sexual intercourse *per* anamnesis. Personal and family anamnesis did not indicate any illness. The patient (48 kg, 1.61 m) confirmed weight loss of 12 kg in the last six months (despite the increase in stomach volume), occasional abdominal pain and difficulties with micturition and defecation. Clinical examination showed enormously enlarged stomach, malnutrition, total uterine prolapse outside the *introitus* of the vagina which could not be reposed manually due to extreme pain (Figure 1). The patient was extremely pale, frightened, dyspnoeic and normotensive, with g. During abdomen palpation a voluminous, expansive and presumably adnexal mass was found with the starting point in the small pelvis, extending to the costal arch. A permanent catheter was placed and 2 l of clear urine were obtained.

Transabdominal ultrasound examination showed that the whole small pelvis and the abdomen were occupied by a giant cystic formation filled with clear fluid that suppressed the intestinal whorls. Uterus, the adnexa, bladder, as well as size and type of the described mass could not be differentiated by ultrasound examination.

Due to patient's inability to breathe, in order to reduce transabdominal pressure abdominal cyst puncture was performed. The punctate (7 l of light yellow fluid) was sent for cytological analysis. After that computed tomography (CT) examination of the abdomen and small pelvis was performed.

Computed tomography examination of the abdomen and the small pelvis revealed extensive, bilocular, expansive cystic change, with clear borders, density corresponding to clear liquid and 580 x 322 x 267 mm in size. The urinary bladder was changed in shape, pushed to the right and outside the small pelvis. The uterus and the ovaries were undifferentiated. Blood vessels of the abdomen and pelvis were enlarged and lymph nodes were normal in size (Figure 2).

Operative treatment was indicated and infraumbilical central laparotomy was performed (Figure 3). Intra-operatively, stems of both cysts emanated from wide uterine joints, along with the abdominal end of the right fallopian tube, so that the fimbriae of the right fallopian tube could not be differentiated. We joined the stems of both cysts together, cut and tied it all. The left fallopian tube was completely preserved, with its regular anatomical features, and the right fallopian tube was removed together with the cystic formation. Uterine suspension was done for sacrouterine ligaments by shortening them due to the initial elongation and fixing them subsequently for the back wall of the uterus at the site of the anatomical attachment of sacrouterine ligaments. After the surgery, while the patient was under general anesthesia, manual uterine repositioning was performed.

The post-operative course was uneventful. The patient was afebrile the whole time, without urination problems. Peristalsis was established on the first post-operative day. At the control gynaecological check-up, the uterus was of regular size with normal anatomical characteristics, and there was no initial prolapse of internal genital organs during strain. At the control gynecological examination, done 35 days after the surgery normal statics of internal genital organs was established.

Macroscopic finding revealed that right paraovarian cyst weighted 8.4 kg, while left cyst ruptured during extirpation. Both cysts were with smooth inner wall and filled with yellow content (Figure 4). Pathohistological finding was *Cystae simplex paraovariales permagne*.

DISCUSSION

Paraovarian cysts originate from the mesothelium and are presumed to be remnants of Müllerian and Wolffian ducts (1). They are usually discovered on ultrasound examination. However, due to the proximity of the ovary for which cystic formations are not rare the diagnosis of these lesions can be challenging (2). Large lesions can reach over 20 cm in diameter and then become symptomatic (3). These are generally benign changes, but in rare cases can lead to borderline tumors and malignancies (4). Paraovarian cyst complications include: compression on the surrounding structures of the pelvis minor and abdomen, pelvic pain, and cyst torsion (5).

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¹ Department for Gynaecology and
Obstetrics

² Center for Surgical Branches

³ Department of Paediatrics

⁴ Department of Biochemistry

University Hospital Foča, University of
East Sarajevo, Studentska 5, 73300
Foča, Republika Srpska, Bosnia and
Herzegovina

Correspondence to:

Vladimir Čančar

E-mail: dr.vcancar@gmail.com

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Figure 1. Uterus prolapse as a complication in case of giant paraovarian cyst

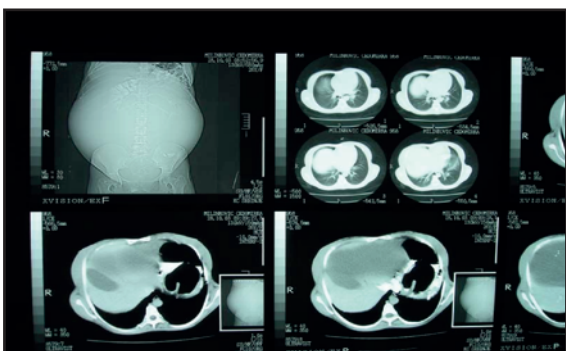


Figure 2. Computed tomography (CT) findings of the abdomen and the small pelvis



Figure 3. Intraoperative finding during extirpation of a cyst



Figure 4. Macroscopic finding and weighting of the cyst

Prolapse of the uterus most often occurs in the elderly patients and is closely related to difficult and long-lasting deliveries, in women who had multiple pregnancies, twin pregnancies or infants weighing over 4 kg, but also in patients with long-term cough, asthma and bronchitis, enormous obesity and is associated with a lower estrogen levels in the postmenopausal period (6). Uterine prolapse is the third most frequent indication for hysterectomy (7).

In this case report uterine prolapse occurred in a young, 26-year-old nulliparous woman as a complication of increased intra-abdominal pressure due to expansive growth of a large paraovarian cyst of the right ovary. So far, we have not encountered uterine prolapse at this age. On the other hand, never before have we seen this kind of complication of the paraovarian cyst. What distinguishes this case report from other cases is the fact that patient had never given birth and never had sexual intercourse. All previously described cases related uterine prolapse to patients with at least one, and most often more deliveries (8).

When taken into account the amount of punctate before the surgery the volume of the cyst described in this case report was 15.4 l. Given the size and close connection with the surrounding organs, as well as the possibility of appendages we opted for classical operating method instead of laparoscopic one. In modern surgical approach laparoscopy is preferred (9). But, due to the size of the mass, limited possibilities for diagnostics as well as presence of uterine prolapse (that arose as a complication of an increase in intra-abdominal pressure) and need for the subsequent repositioning and sacro-uterine fixation of the uterus we gave preference to the classical operative approach.

In surgical resolution of uterine prolapse as a disorder of the statics of women's genital organs it is important to preserve reproductive function if the patient is in the generative period.

CONCLUSION

Uterine prolapse is rare at a young age in nulliparous women, but it can occur as a result of increased intra-abdominal pressure. Appropriate surgical treatment should be aimed at the preservation of the reproductive function of the patient.

Declaration of interests

Authors declare no conflicts of interest.

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