

SURGICAL LAPAROSCOPIC TREATMENT OF A BULKY OVARIAN TUMOUR ASSOCIATED WITH PREGNANCY. CASE REPORT

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Abstract: The article below aims to report the surgical laparoscopic solution for a bulky ovarian cyst that complicates the evolution of a 16 gestational-week-pregnancy. The surgical technique used was right laparoscopic adnexectomy under general anesthesia. The postoperative evolution was good, the pregnancy having a physiological course to term. The laparoscopy represents a surgical alternative in pregnant women with benign ovarian pathologies.

INTRODUCTION

The ovarian cystadenoma is a relatively rare ovarian tumour that contains epithelial and stromal components. There are described five histologic subtypes (serous, mucinous, endometrioid, with clear cells and mixed). These tumours are generally benign or borderline at most. The imagistic aspect of the cystadenomas complex resembles with a malignant tumour.⁽¹⁾

CASE REPORT

We report the case of a young patient, 35 years of age, married, living in Sibiu, admitted in our clinic for pelviabdominal, right hypochondrium and flank pain.

From the physiological case history it is important to keep in mind the menarche at 14 years of age, rhythmic menses at 26-28 days, 4 days duration, with normal flow. The patient had two previous pregnancies, the first ended at 8 gestational weeks after a demanded abortion. The second pregnancy had a physiological evolution, resulting a living fetus, 3450 g, Apgar Index 10, born at 39 gestational weeks after cesarean section, the indication being the maternal cardiac disease.

From the personal medical history of the patient we mention an appendectomy in 2000, the cardiac disease (mitral and tricuspid regurgitation Ist grade) with ECG findings. The cardiac disease was well monitored by the cardiologist and it did not need medical treatment, nor any cardiac failure episodes.

From the disease's history we keep in mind that the patient is pregnant, with the last menstruation on the 12th of April 2015, booked for antenatal care at 6 gestational weeks with the obstetrician and the GP, correctly monitored. The current symptomatology (pelviabdominal pain with increased intensity in the right lower quadrant accompanied by pain in the upper and middle right quadrants) had an insidious onset in the last three weeks.

There were no pathological findings in the physical exam, but only the ones related to the pregnancy. The patient was athletic, 169 cm, 55 kg with a 5 kg weight gain.

The physical exam reveals hypertrophic breasts, slightly sensitive with hyperpigmented areolae and an evident Haller vascular network. The abdomen is increased in volume on account of the pregnant uterus (the uterine fundus is 2 cm under the umbilicus) and of the tumour formation which is elastic, mobile, sensitive, well defined that indwells the right

lower, middle and upper quadrants.

The valve exam highlights the perineum, the vulva and the vagina with specific pregnancy modifications, the cervix with no macroscopic lesions and non-specific leucorrhoea in the vagina.

The pelvic exam reveals an increased in size uterus corresponding to a 16 gestational-week-pregnancy with basal tone slightly increased. Lateral to the uterus an ovoid, elastic, well defined, regular edges tumour that is mobile on the neighbouring plans is being palpated. The tumour is sensitive and is appreciated at about 20 cm.

To be able to support a positive, etiological and differential diagnosis we have performed the evaluation of the biological status of the pregnant woman and requested the following investigations: general (height, weight, heart rate, blood pressure, temperature, diuresis), CBC, blood glucose, ALAT, ASAT, blood ionogram, urine exam, ECG. We also performed a pelvic ultrasound in order to confirm the evolution of the pregnancy and also to describe the tumour clinically detected.

The ordinary investigations were found to be in normal limits, as well as the weight, blood pressure, pulse, temperature curves and diuresis.

The ECG shows sinus rhythm, with a heart rate of 85 b/min, with the heart axis to the right. There are abnormal terminal QRS vectors in the inferior leads, most probably associated with the patient's cardiac disease (mitral and tricuspid regurgitation Ist grade, hypertrophy of the left ventricle).

The pelvic ultrasound reveals the enlarged uterus containing a single fetus, alive, biparietal diameter - BPD = 39 mm, head circumference - HC = 146 mm (head circumference), abdominal circumference - AC = 125 mm, femoral length - FL = 22.7 mm; normal quantity of amniotic fluid; the placenta is situated on the posterior wall of the uterus, maturation grade zero. Right and superior to the uterus, a transonic mass is described, 159/85 mm, well delimited, without Doppler signal. There are not any masses in the left adnexial lodge.

Having all the elements brought by the clinical, paraclinical and imagistic investigations we have diagnosed the patient with 16 GW evolving pregnancy, complicated with threatened abortion; bulky right ovarian cyst; Ist grade mitral and tricuspid regurgitation.

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The differential diagnosis of the cystic tumour is made with other cystic masses of uterine origin (pediculate or intraligamentary subserous fibromyoma), tumours of the neighbouring organs (sigmoid, rectum, appendicular plastron, ectopic kidney, ptosis of the kidney), pelvic inflammatory macrolesional processes (piosalpinx, abscess of the ovary, pelviperitonitis), ectopic tubal pregnancy or tubal neoplasm, solid ovarian tumour or ovarian fibromyoma, functional cysts (abnormal menses, they disappear spontaneously or after progestative treatment), ovarian neoplasm (extemporaneously histopathological exam).

The tumour diagnosis is supported by the presence of the mass found at the pelvic and abdominal exam that is located with prevalence in the right lower quadrant, with extension in the right upper and middle quadrants that has also been highlighted by the ultrasound examination. The cystic and benign characters are supported by the echographic features (transonic mass, well delimited, without intratumoural vegetative growths, no Doppler signal) and the values of CA125.

The treatment in this case is dictated and justified by the pregnancy and the initial stage of the abortion, and it was chosen to be a surgical one.

The objectives of the treatment are the tumour excision. This also represents the removal of the factor that complicates the pregnancy. Another fixed objective is the preservation of the pregnancy through controlling the uterine contractions.

The pre-op preparations were done with hormonal treatment with synthetic progesterone (Duphaston 10 mg, 20 mg qrn 8h) and spasmolytics (NoSpa 40 mg, 40mg qrn 8h). We have also done a clinical and biological balance sheet, and preparations consisting in preanesthetic fasting, enema and bladder catheterization.

The surgical intervention chosen needed general anesthesia with tracheal intubation. All of the anesthetics used for the induction and maintenance of the anesthesia were drugs with long history of safety, in order to reduce the fetal hazards. There were no studies to demonstrate teratogenicity hazards for any of the anesthetics used in women, and especially in the second trimester. Due to the physiological changes of the pregnant woman there are several things that must be taken into consideration: ranitidine and metoclopramide before induction, uterine displacement when needed, careful denitrogenation before intubation, cricoid pressure and rapid tracheal intubation with cuffed canula, monitoring the $e\text{TCO}_2$ and PaCO_2 to avoid hyperventilation, avoidance of hypotension with fluid management and administration of ephedrine or phenylephrine.(2)

We have chosen the surgical laparoscopic treatment. We have decided to perform right laparoscopic adnexectomy.

Figure no. 1. Left ovary (author's archive)



After the incision and suction of the cystic content in order to create an optimal working environment, we have evacuated approximately 1500 ml of serous, citrine fluid. We have clamped, coagulated and sectioned the right infundibulopelvic ligament, proper ovarian ligament and the right uterine tube near the uterus with subsequent adnexectomy. The main vascular pedicles are clipped with a titanium clip.

Figure no. 2. Right ovary (author's archive)

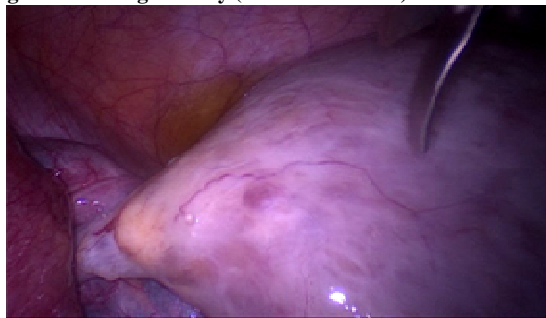


Figure no. 3. Gestational yellow body in the cystic ovary (author's archive)



Figure no. 4. Incised and evacuated cyst (author's archive)



Figure no. 5. During surgery: after the right adnexectomy was performed (author's archive)



CLINICAL ASPECTS

We have done the hemostasis control, peritoneal washing, exsufflation of the pneumoperitoneum and the suture of the trocar incisions.

There were no incidents and accidents during the surgical procedure or in the immediate postsurgical and postanesthetic period.

Figure no. 6. Hemostasis control (author's archive)



After the surgery, the patient received adequate analgesia, prophylactic antibiotherapy, surgical wound toilet, early removal of the urinary catheter, deep venous thrombosis prevention through pharmacological and mechanical measures (early mobilization of the patient) and fluid management.

We have also evaluated the pregnancy through ultrasound examination and we reconfirmed its viability, with the continuation of the hormonal and spasmolytic treatment.

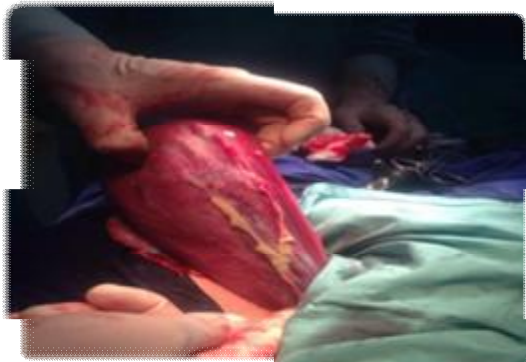
We have discharged the patient the third day after the surgery.

The recovery after the surgical removal of an ovarian cyst is usually fast and does not require any special treatment.

Pathology result: ovarian cystadenofibroma. Ovary with hypertrophic yellow body, albicans bodies and cystic follicles. Congestive tube with parietal fibrosis. There were no atypia in the examined material.

The pregnancy follow-ups were done in a normal rhythm, the evolution being favourable and it ended at term, through cesarian delivery of a live fetus, 3800g, AI 10/1', in good conditions.

Figure no. 7. Scar tissue – 4 months after laparoscopic adnexectomy (author's archive)



The postoperative results were evaluated during the cesarian intervention, as they are shown in figure no. 7.

DISCUSSIONS

The pathogenesis of the ovarian tumours is not very well known. Angiogenesis is an essential component of the two ovarian cycles (follicular and luteal phases). It also takes part in

various pathological processes: follicular cyst, polycystic ovarian syndrome, ovarian hyperstimulation syndrome and different benign or malignant ovarian masses. A major mediator of angiogenesis is the endothelial growth factor, this also being a specific factor in the development of the ovarian tumours. Some ovarian tumours develop from rests of the Muller/Wolff ducts or other embryological tissues such as dysembryoplastic tumours (dermoid cyst, teratoma).(3,4)

The functional ovarian cysts are formed because of a disorder of the hypothalamic hypophyseal ovarian axis or because of miss-reaction of the ovary to FSH and LH.(4)

THE PARTICULARITY OF THE CASE

The presence of the adnexial tumours in pregnancy is quite rare, most of the times the luteal cysts disappear after 16 weeks of pregnancy.

The evolution of the cystic tumour is towards gradually growing and appearance of the complications, with no chance of healing spontaneously.

The complications of the cyst are: adnexal torsion, cystic rupture with hemorrhage and retroperitoneal dissemination, intracystic hemorrhage, infection; compressive phenomena on the bladder, ureters, digestive tract, veins and lymphatics; malignant transformation.

If associated to pregnancy, the frequency of the torsion is higher in the rapid growth phases of the pregnancy (1st trimester) and immediately after delivery.

The prognosis is good after treating the pathology that complicates the pregnancy.

CONCLUSION

The laparoscopic procedure, a minimal invasive technique, represents a good alternative for a correct surgical conduct in pregnant women with benign adnexal pathology.

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