

LAPAROSCOPY IN ADNEXAL MASS DURING PREGNANCY – OUR EXPERIENCE

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Abstract: Over the past 50 years laparoscopic surgery has evolved from exploratory and diagnosis surgery to complex oncology surgeries. The first laparoscopy was performed on a dog in the early 1900s by a German surgeon. The first laparoscopy in humans was described in 1910.(1) The first laparoscopy in pregnancy was performed in 1980 for exploratory and diagnostic purposes in the acute abdomen.(3) The aim of the paper is to present the experience of our clinic related to the surgical gynaecological pathology associated with pregnancy. We searched for all cases of gynaecological pathology cyst between 2016 and 2018 in our clinic's archives. Six patients in their second trimester of pregnancy underwent gynaecological laparoscopy during 2016-2018. The gynaecological pathology associated with pregnancy was symptomatic ovarian cyst. In all cases, laparoscopic surgery was performed.

INTRODUCTION

Over the past 50 years, laparoscopic surgery has evolved from exploratory and diagnosis surgery to complex oncology surgeries. The first laparoscopy was performed on a dog in the early 1900s by a German surgeon. The first laparoscopy in humans was described in 1910.(1) After the 1920s and 1930s, the first improvements in laparoscopic devices began to be introduced. Pyramid trocar, Veress needle, and a safer lighting system have been introduced.(2) The first laparoscopy in pregnancy was performed in 1980 for exploratory and diagnostic purposes in the acute abdomen.(3) The most common laparoscopic surgery performed in pregnancy is cholecystectomy, appendectomy and adnexectomy.(4) The frequency of surgical interventions in pregnancy is 2%. Surgery in pregnancy is an interdisciplinary problem for obstetricians, general surgeons and anaesthetists.(5) Indications of laparoscopy in pregnancy are: acute appendicitis, cholecystitis, biliary lithiasis, acute abdomen of unknown cause, adnexal torsion, symptomatic ovary cyst, pelvic lymphadenectomy with vaginal trachelectomy for cervical cancer.(5) The limits of laparoscopy in pregnancy are represented by advanced pregnancy that does not allow laparoscopic approach, peritonitis, lack of experience of the operating team etc.(5) Ovarian cysts formed in the first trimester of pregnancy are most commonly functioning and resolve spontaneously. Ruptured ovarian cyst is a rare pathology in pregnancy. The frequency of ovarian cysts in the second trimester of pregnancy (after 16 weeks of gestation) is 0.5% - 3%.(6) About 20% of adnexal torsion occurs during pregnancy.(7,8,9) The advantages of laparoscopic surgery is the abdominal approach through small incisions, reduced pain in postoperative and implicitly reduced postoperative analgesia; reducing the risk of complications related to abdominal wound infections, early resumption of intestinal transit, decreased hospital stay, and early resumption of occupational and social activity.(10) The risks of laparoscopy in pregnancy refer to both mother and foetus. The hemodynamic changes due to the creation of pneumoperitoneum in pregnancy are not different from those occurring outside the pregnancy. However, complications such as premature birth or

abortion may occur. There is also a risk of harming the pregnant uterus or injecting gas into the uterus.(11)

AIM

The aim of the paper is to present the experience of our clinic related to the surgical gynaecological pathology associated with pregnancy.

MATERIALS AND METHODS

We searched for all cases of gynaecological pathology cyst between 2016 and 2018 in our clinic's archives. Of these, only cases with gynaecological pathology associated with pregnancy were extracted. Hospital data were then analysed to determine the gestational age at the time of surgery, the type of surgery performed, the complications during surgery and postoperative, the age of gestation at birth, and whether tocolytic treatment was used.

RESULTS

Six patients in their second trimester of pregnancy underwent gynaecological laparoscopy during 2016-2018. The gynaecological pathology associated with pregnancy was symptomatic ovarian cyst. In all cases, laparoscopic surgery was performed. No laparoscopies were converted to laparotomies. The minimum gestational age at surgery was 16 weeks and the maximum was 22 weeks. A standard maximum intra-abdominal CO₂ pressure of 12 mm Hg. The types of surgical interventions used were cystectomy and adnexectomy. No intraoperative external fetal monitoring was performed. There were no intraoperative or postoperative complications. All patients received antispasmodic postoperative treatment, but none of the patients received tocolysis because the medical situation did not require it. All the patients gave birth at term, part vaginally, and the other through caesarean section. All mothers and babies were discharged from hospital in time.

DISCUSSIONS

The data found in literature related to laparoscopy in pregnancy are extremely different. A review, published in the

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CLINICAL ASPECTS

literature in 2012 on laparoscopic treatment of appendicitis in pregnancy that evaluated cases between 1990 and 2011 suggested that laparoscopy in pregnancy led to more preterm labours than open surgery.(12) However, it is difficult to tell whether other maternal pathology associated with pregnancy, the number of spontaneous abortions of patients, or whether pregnancy was single or multiple was considered in these studies. There are a number of conditions that can lead to premature birth and abortion, independent of any surgery. Another study published in 2013 that aimed to study comparatively pregnancy outcomes after laparoscopy or laparotomy showed that laparoscopy in pregnancy is as safe as laparotomy, with the same abortion rate. The study included 192 laparoscopies and 197 laparotomies. Of the laparoscopies, only in 6 cases complications occurred while 25 pregnant women presented complications after laparotomy.(13)

Another study published in 2003 showed that in 47 cases of laparoscopy in pregnancy there were no intraoperative or postoperative complications. There was only one case of miscarriage a few days after laparoscopy.(14) Regarding the complications of laparoscopic surgery related to insufflation of gas in the uterus, there are few cases exposed in the literature. This is a rare complication and is most likely dependent on the operator's experience.(15,16)

Another paper published in 2004 aims to evaluate laparoscopic pregnancy versus laparotomy. Surgery took place in the second trimester of pregnancy. Evolution of pregnancy after surgery was similar and without complications regardless of the approach path used. However, laparoscopically operated pregnant women had a shorter duration of hospitalization compared to laparotomy.(17) Even though literature data show that laparoscopic surgery is as effective as classical surgery, one has to keep in mind the benefits of minimal-invasive surgery. These advantages make it superior and selective in treating surgical pathologies associated with pregnancy. Traditionally, the recommendation has been to avoid surgery during the first and third trimesters to minimize the risk of spontaneous abortion and preterm labour, respectively. This has led some authors to suggest that the gestational age limit for successful completion of laparoscopic surgery during pregnancy should be 26 to 28 weeks.(7,18)

Recent data from the literature demonstrated that pregnant women may undergo laparoscopic surgery safely during any trimester.(19) Abdominal access for laparoscopy can be accomplished using open or closed laparoscopy. Closed laparoscopy has the risk of injury the uterus or other abdominal organs.(20) Although as we said above, this risk has been described as a rarity in literature. The preferred method of diagnosis and treatment in pregnancy associated with adnexal torsion is laparoscopy.(21) The papers from the literature have confirmed the efficacy of laparoscopy in this pathology.

CONCLUSIONS

Laparoscopic management of symptomatic ovarian cyst in pregnancy by an experienced team is a safe and effective procedure. It has the advantage of a shorter hospital stay, a reduced rate of post-operative complications and a decreased maternal and foetal morbidity

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