In this issue, Koo and colleagues authored an interesting article entitled “An 11-year experience with ovarian surgery during pregnancy”. They investigated the characteristics and outcomes of pregnant women who underwent surgical intervention for ovarian neoplasm and found that either conventional laparotomy or laparoscopy approach could be successfully used in the management of ovarian tumor during pregnancy without adverse events. We acknowledge the probity of this publication.

Ovarian neoplasms, presenting as either benign or malignant tumors, now can easily be identified and likely more often detected because of the widespread use of ultrasound earlier in pregnancy. The incidence rate of ovarian tumors in pregnancy is around 0.05% of all deliveries. Although the incidence rate is still low, ovarian tumors remain a challenge for clinical physicians. This is in part, because proper medical management of these tumors by necessity takes into consideration both the technical difficulty caused by enlargement of the uterus, and the risk of fetal loss. Caring for these pregnant patients should always involve multidisciplinary teamwork with the aim of optimizing outcomes for both the mother and the fetus. Before surgery, it is important to obtain an obstetrics consultation to discuss key aspects of maternal physiology and anatomy. Besides the obstetrics specialty, we can also obtain valuable contributions from anesthesiology, pediatrics, and even a surgical consultation to protect most efficaciously the safety of the mother and fetus.

In the Koo et al study, the most common type of ovarian neoplasm during pregnancy was mature teratoma, which was consistent with previous studies, although some studies have shown variation, including benign cystadenoma (41.9%). However, all studies have shown that primary ovarian malignancies are extremely rare. Koo et al reminded us of the possibility of secondary ovarian tumors, because they found that both ovarian malignancies were secondary to metastasis from other organs, especially gastrointestinal tract malignancy.

Since the development of high-resolution imaging tools, particularly ultrasound and magnetic resonance imaging, such tools have been reported to have a clear ability to distinguish benign from malignant neoplasms of the adnexa. This accurate diagnosis is important because it helps us to reach informed decisions about the relative necessity of a surgical approach for ovarian tumors during pregnancy. If the tumor diameter is >10 cm, or shows atypical appearance or complex content within the tumor, the risk of malignancy is significantly elevated (8.77% vs. 0.85%; odds ratio 11.2, 95%, confidence interval = 1.3–97.9). In fact, Wang and colleagues in 1997 found that the size of a malignant tumor was significantly larger than that of a benign tumor (12.8 vs. 8.5 cm, p < 0.001) and the tumor size of malignant ovarian tumors was >10 cm in nearly all patients (p = 0.03). By contrast, carbohydrate antigen 125 serum level and gray-scale scoring (>9) cannot distinguish benign from malignant tumors. In the Koo et al study, the authors also emphasized the importance of tumor size, and suggested that surgical intervention can be considered when the tumor is >10 cm, whereas surgery can be delayed for those <5 cm.

The principles relating to ovarian surgery can follow guidelines originally designed for other nonobstetric surgery. For example, American College of Obstetricians and Gynecologists committee recommendations suggest that nonemergency surgery should be undertaken in the second trimester, because the possibility of uterine contraction and rate of spontaneous abortion are both lower. One report has shown that the rates of preterm contraction and miscarriage are about 5.8% and 2.9%, respectively, if adnexal surgery is performed in this trimester. The majority of cases (74%) in the Koo et al study were also managed in the second trimester.

In addition, most ovarian neoplasms are asymptomatic. Therefore, elective surgery can, if possible, be delayed until or after delivery. By contrast, based on the previous study by Wang et al, ovarian surgery can be performed as early as gestational week 8.

Third, if surgery is warranted due to suspicion of malignancy, risk for torsion, or clinical symptoms, electronic fetal heart rate and uterine contraction should be monitored before, during, and after surgery to evaluate fetal wellbeing and the uterine contractions.

Fourth, with increasing numbers of successful laparoscopic surgeries reported during pregnancy, laparoscopy has become an acceptable alternative to standard laparotomy in any trimester. Laparoscopic entry techniques, such as use of the Veress needle, Hasson trocar, or optical trocar, all can be safely performed during pregnancy. Postoperative hospital stay after laparoscopic surgery is significantly shorter than for those receiving laparotomy; such abbreviated stays may also
be considered for smaller ovarian tumors. In the Koo et al study, 20% of the patients underwent laparoscopic surgery, and all of them were performed electively using general anesthesia. However, the article failed to provide further information such as blood loss, operative time, hospital stay, and visual analog pain scores. Therefore, the feasibility of laparoscopic surgery for pregnant women with ovarian tumor needs considerably stronger evidence.

The majority of ovarian neoplasms that occur during pregnancy are usually benign, and malignancy is rare. However, laparotomy or laparoscopy for scheduled or emergency surgery is still sometimes required, although it may increase the risk of preterm uterine contraction or fetal wastage. Consequently, preconception counseling and sonographic evaluation might be a better alternative for many patients, in an effort to decrease pathological ovarian tumors during pregnancy. For example, removal of mature teratoma before conception might significantly diminish the incidence of ovarian surgery during pregnancy.

References


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