

Editorial

Ovarian torsion during pregnancy[☆]

Ovarian tumors might complicate pregnancy in any one of the pregnancy periods, and any management used should not have a negative impact on the wellbeing of either the mother or the fetus. In this issue, Chang and colleagues discussed the topic of ovarian torsion during pregnancy, and identified 20 pregnancies during a 12-year period [1]. They found that the majority of cases (75%) occurred in the first trimester and 30% were mature teratomas [1]. In fact, in 2009, the authors studied 174 patients and showed only 5.9% of ovarian torsions occurred after 20 weeks, suggesting a higher risk of ovarian torsion occurring before 20 weeks of gestational age; this was also evidenced in another study [3]. In addition, the highest risk of ovarian torsion exists between the 10th and 17th week of gestation (60%). Finally, ovarian torsion does not always occur with pathological findings; that is to say, the percentage of functional cysts (corpus luteum cyst, follicular cyst) is high, e.g., 35% in Chang and colleagues' study [1] and 41% in another study [3].

Therefore, the question is raised as to what the next step should be when these ovarian tumors occur during pregnancy, because the tumor might challenge both the physicians and the pregnant women, and subsequently harm the mother and/or fetus. To respond to this question is not easy, and there is much controversy, if issues such as anesthesia risk, fetal loss, fear of malignancy and anxiety regarding overmanipulation of the functional ovarian cysts, which often spontaneously disappear, are taken into consideration [4].

Acute abdomen, especially, might be one of the most urgent situations, and may be accompanied with early fetal loss if ovarian torsion occurs during the first trimester [5]. In fact, the most frequently seen and serious complication of ovarian tumor during pregnancy is torsion [4]. Based on Chang and colleagues' study, we can summarize the basic characteristics of ovarian torsion during pregnancy as follows: (1) teratoma is the most common; (2) the riskiest period is before 20 weeks of gestation; (3) functional cysts are not totally free of complications. However, the management of these accidentally diagnosed ovarian tumors during pregnancy is still debated, even though they are risky.

In 2005, Schmeler and colleagues concluded that close observation is a reasonable alternative to antepartum surgery in patients with an adnexal mass during pregnancy in select

cases [6]. In addition, Katz's study of the high-risk group (teratoma during pregnancy) failed to identify an unfavorable prognosis with these tumors, since complications are extremely rare [7]. Therefore, Katz suggested that these tumors should be managed conservatively, if possible, with routine ultrasound follow-up during pregnancy [7].

However, surgical management of adnexal masses during pregnancy cannot be completely avoided, especially when the pregnant women have complications including rupture, torsion, or a high level of suspicion of malignancy or any urgent condition without an acceptable explanation [4]. The decision to perform an operation should be taken with caution; in addition, the questions of how or when to treat these patients, and who should be treated with surgical intervention for adnexal masses during pregnancy are always present.

We do not argue with the suggestion that conservative observation might be better in the majority of ovarian tumors diagnosed accidentally during pregnancy. In our experience [5], we have favored the use of prophylactic surgery (preferably the laparoscopic approach) to remove mature teratomas at the 8th week of gestation, to minimize the risk of fetal loss during pregnancy without contraindication, because we found no fetal loss occurred after the 8th week of gestation in selective surgery. An urgent operation might increase the risk of fetal loss before the 10th week of gestation, especially in cases of mature teratoma. Of most importance, the diagnosis of mature teratoma is easy through high-resolution ultrasound in early pregnancy, and this type tumor-teratoma is prone to torsion at the first trimester [4].

Another issue is worthy of our attention, and that is tumor size, which is debated when we consider whether these tumors should be removed during pregnancy. Two studies supported a cut-off value of 10 cm, since tumor diameters $>$ or $=$ 10 cm at the initial diagnosis during pregnancy had a higher risk of malignancy [2,8]. However, if we consider the possibility of ovarian torsion, the cut-off value of tumor size might range from 6 cm to 8 cm, since tumors of this size have a significantly higher risk of torsion [2]; a study in this issue showed the mean mass size was 7.9 cm [1].

References

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[☆] No benefit of any kind will be received either directly or indirectly by the authors.

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