

Adnexal Torsion in the Third Trimester of Pregnancy After in Vitro Fertilization: A Case Report

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Adnexal torsion causes venous and lymphatic blockade complicated by congestion. Adnexal torsion is seldom in pregnancy, occurring approximately 1 in 5000 pregnancies, more frequently in the first trimester. Acute abdominal pain and abdominal disturbances are challenging issues during pregnancy for the diagnosis. The clinical symptoms are non-specific. Colour and power Doppler sonography may be useful for the early diagnosis. Adnexal torsion is generally due to ovarian stimulation treatment or ovarian masses in pregnancy. The correct diagnosis of maternal ovarian torsion might be delayed or underestimated in the second half of gestation because the increased dimensions of the uterus could blockade the abdominal palpation and make the sonography inefficient. Laparoscopy should be preferable for the adnexal torsion suspicion. But as the gestational age increases laparotomy should be a choice because of the risk of injury to the uterus related to the enlarged volume by the fetus.

Key Words: Adnexal torsion, Pregnancy, Ovarian stimulation, IVF

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Introduction

Ovarian torsion is the twisting of an ovary around its vascular axis; adnexal torsion is the term that includes either the ovary, fallopian tube or both. It causes a venous and lymphatic blockade complicated by congestion. So a hemorrhagic infarction occurs and necrosis will come through. Adnexal torsion is seldom in pregnancy, occurring approximately 1 in 5000 pregnancies, more frequently in the first trimester especially after ovarian stimulation for in vitro fertilization (IVF).¹ Acute abdominal pain and abdominal disturbances are challenging issues during pregnancy for the diagnosis, because of the physiological and anatomical changes in pregnancy. The clinical symptoms are non-specific to distinguish the cause of acute abdominal pain from each other like renal colic, appendicitis, cholecystitis or labor.¹ The diagnosis is difficult to process so that adnexal torsion must always be kept in mind to preserve the ovary intact for the future of fertility. Here we report a patient with adnexal torsion at the third trimester of pregnancy, a diagnostic dilemma.

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Case Report

A 26-year-old primigravida woman admitted to our clinic at 33 weeks of gestation with a new onset of right abdominal pain, nausea and vomiting. She had no dysuria, no other gastrointestinal sign, no uterine contractions, vaginal discharge or vaginal bleeding. She was afebrile and physical examination showed a point of maximal tenderness at the right abdominal quadrant. She had a history of Polycystic Ovary Syndrome (PCOS), she had previous unsuccessful ovulation induction and in utero insemination (IUI) attempts and she conceived after in-vitro fertilization attempt. At the first trimester she admitted to our hospital because of the complaints of abdominal distension, nausea and abdominal pain ten days after the embryo transfer; she was hospitalized with the diagnosis of severe ovarian hyperstimulation syndrome (OHSS), which was treated according to our protocols and resolved spontaneously during the first trimester of pregnancy.

We performed a sonography to the patient and visualized 5x3 cm heterogeneous, solid-cystic mass with minimal vascularity. Blood tests showed that white blood cell count and C-reactive protein were within normal ranges, she had minimal anemia and her liver function tests, creatinine levels, electrolytes and urine culture result were normal. Renal sonography was also normal.

As the pain became more severe after 8 hours, the possibility of adnexal torsion was strongly suspected and control sonography performed; a 9x4 cm solid mass without significant vascularization with periferic cysts was detected. Her

white blood cell count (WBC 12.400, neutrophils 84.8%) was slightly elevated and so an explorative laparotomy was immediately performed because of the advanced gestational age within the suspect of adnexal torsion. The intraoperative findings showed right adnexal torsion with an ischemic and edematous ovary, 10x5 cm in diameter and there was extensive hemorrhage and ischemia, so that right salpingo-oophorectomy was performed. The pathology revealed enlarged right ovary with signs of hemorrhagic necrosis. The patient presented with the rupture of membranes during the third trimester of pregnancy and she delivered by cesarean section at 36 weeks of gestation because of breech presentation; a girl, 2630 grams with 9-10-10 APGARS and with a cord ph of 7.34; born.

Discussion

In pregnancy it is difficult to diagnose adnexal torsion accurately. Colour and power Doppler sonography may be useful for the early diagnosis by showing the absence of blood flow inside the ovary but the diagnostic accuracy of ultrasound is limited because the ovaries are displaced in pregnancy.² However, the existence of a decreased blood flow should also not rule out the suspicion of adnexal torsion. MRI is a potential alternative, as it can demonstrate signs of hemorrhagic infarction.² We performed intermittent sonography to make the diagnosis accurate and the second sonography vigorously directed us to suspect adnexal torsion.

Adnexal torsion is generally due to ovarian stimulation treatment for IVF or ovarian masses in pregnancy.³ Adnexal torsion usually occurs at the right adnexa, that is probably because the sigmoid limits the mobility of the left ovary. Adnexal torsion usually presents in the first trimester but also it has been reported as few cases in the second trimester and rarely in the third trimester.⁴ Our patient had an IVF and OHSS history for a predisposing effect and had a right sided ovarian torsion. Additionally its presenting in the third trimester makes the case interesting.

The preoperative diagnosis is difficult because the torsion of the adnexa has non-specific clinical, laboratory and imaging findings; especially in pregnant women and it would be more complex to identify the situation as the gestational week increases. Abdominal pain, nausea and vomiting are the outstanding symptoms and these findings are common for many cases of acute abdomen with different etiologies including appendicitis, bowel obstruction, gastrointestinal infection, cystitis and renal colic.^{5,6} Physical examination shows a palpable mass up to 50% of the cases as the most common presenting sign.⁷ Our patient had nausea, vomiting and abdominal pain, but we had difficulty in diagnosis at the initial examination and sonographic evaluation because the symptoms, signs and

also laboratory findings were not specific and also the gestational week with an enlarged uterus made it difficult to visualize the ovaries exactly.

The correct diagnosis of maternal ovarian torsion might be delayed or underestimated in the second half of gestation because the increased dimensions of the uterus could blockade the abdominal palpation and make the sonography inefficient.⁸

Laparoscopy should be preferable for the adnexal torsion suspicion in the first trimester of pregnancy because it is suitable for diagnosis, evaluation and treatment.⁴ Laparoscopy may also be carried out during pregnancy of advanced gestational age.⁹ But it is important to prevent complications which are related to the enlarged uterus or cardiovascular and respiratory alterations of advanced pregnancy. And also advanced pregnancy has challenging issues with pneumoperitoneum. Laparoscopy when compared to laparotomy in the surgical treatment of torsions is associated with less postoperative pain, more patient satisfaction and less hospitalization period.¹⁰ Although the laparoscopic approach combined with simple detorsion has been described in the third trimester, laparotomy and salpingo-oophorectomy may sometimes be necessary under certain circumstances and laparotomy still remains as a traditional approach.¹¹ We performed an oophorectomy via laparotomy because the patient was in the third trimester, 33 weeks, and laparoscopy might be harmful for the pregnancy outcome.

Conclusion

Adnexal torsion occurs mostly during the first trimester. Diagnosis is a bit challenging because of the nonspecific clinical and laboratory findings and maternal physiologic and anatomic changes of pregnancy. Especially in the advanced gestational age it would be more difficult to diagnose because of the enlarged uterus. IVF patients must be kept in mind for an increased risk of adnexal torsion; and laparoscopy should be preferable in the first trimester. But as the gestational age increases laparotomy should be a choice because of the risk of injury to the uterus related to the enlarged volume by the fetus.

IVF Sonrası Gebeliğin Üçüncü Trimesterinde Adneksiyal Torsiyon: Bir Olgu Sunumu

Adneksiyal torsiyon venöz ve lenfatik blokaja neden olur ve konjesyon gelişir. Adneksiyal torsiyon gebelikte nadirdir ve sıklıkla birinci trimesterde olmak üzere yaklaşık olarak her 5000 gebeliğin birinde gözlenir. Akut abdominal ağrı ve abdominal rahatsızlık gebelikte tanıyı güçleştiren durumlardır. Klinik semptomlar non-spesifiktir. Renkli doppler ultrason erken tanı için faydalı olabilir. Adneksiyal torsiyon gebelikte sıklıkla overyan stimülasyon tedavisi veya overyan kitleler sonucunda geli-

şir. Uterusun artmış boyutuna bağlı olarak abdominal muayenenin güçleşmesi ve ultrasonun etkinliğini kaybetmesi sonucunda gebeliğin ikinci yarısında over torsiyonu tanısı koymak gecikebilir veya akla gelmeyebilir. Adneksiyal torsiyon şüphesinde laparoskopi tercih edilebilir. Ancak ilerleyen gestasyonel hafta ile büyüyen fetusun oluşturduğu genişlemiş uterusu karşı geliştirecek bir hasardan kaçınmak için laparotomi bir tercih olabilir.

Anahtar Kelimeler: Adneksiyal torsiyon, Gebelik, Overyan stimülasyon, IVF

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