

## CASE REPORT

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## Adnexal Torsion of a 23w4d Twin Pregnant Woman

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**ABSTRACT** When torsion occurs during pregnancy, it has high morbidity and mortality for mother and baby. With this case report, we want to contribute to the literature on what to do when this situation is encountered. In this case report, we explained the diagnosis of ovarian torsion in a patient with 23w4d twin *in vitro* fertilization pregnancy by color Doppler ultrasonography and the treatment of the torsion with emergency laparotomy. The torsioned ovary had been detorsioned and fixed to the posterior part of the uterus by suturing. In this way, it was prevented from being torsioned again. We hope that the information we provide in this study will be useful to healthcare professionals who encounter such cases.

**Keywords:** Ultrasonography, Doppler, color; ovarian torsion; fertilization *in vitro*

Torsion of the adnexa during pregnancy is a very serious condition for patients. This condition, which manifests itself with acute abdominal pain, is a serious complication that can develop in patients who have undergone assisted reproductive techniques (ART). While the incidence rate in normal pregnancies is 1/5,000, this rate is 1/1,000 in patients undergoing ART.<sup>1,2</sup> The incidence of adnexal torsion in pregnant women with ovarian hyperstimulation syndrome is 6-16%.<sup>3,4</sup> In a study in which 174 pregnant patients with persistent adnexal masses larger than 4 cm were followed, the incidence of torsion was 15%; among these patients, the adnexa is torsioned more frequently between the 10<sup>th</sup> and 17<sup>th</sup> weeks of pregnancy.<sup>5</sup> Adnexal masses with a size of 6-8 cm are more likely to be torsioned than larger ones.

The presentation of torsion in a pregnant woman is similar to a non-pregnant woman.<sup>6</sup> All of the patients have sudden onset of abdominal pain localized to the lower part of the abdomen, and most of them have complaints of nausea and vomiting. Management is similar to non-pregnant patients. Detorsion

of the torsioned adnexa is performed by entering the abdomen with laparotomy or laparoscopy. Considering the size of the pregnant uterus, it can be technically more difficult.

The frequency of recurrence of torsion is similar to non-pregnant patients. In a study examining 41 pregnant patients in whom adnexal torsion was detorsioned, 7 patients had recurrent torsion in the same pregnancy.<sup>7</sup>

We report a case of twin pregnancy obtained by *in vitro* fertilization (IVF) complicated with an adnexal torsion.

### CASE REPORT

Our patient was 31 years old, G1P0. A patient with 23w4d dichorionic diamniotic twin pregnancy was conceived by IVF. Our patient had ovarian hyperstimulation syndrome after controlled ovarian hyperstimulation 1 year ago. The patient was receiving progesterone therapy because she was pregnant with twins. The patient applied to our clinic with severe

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left lower quadrant pain that started 4 hours ago. Physical examination revealed that she had tenderness in the left lower quadrant.

In the hemogram examination performed on the patient, the white blood cell count was 13,420/microliter, the hemoglobin value was 13.2 g/dL and the C-reactive protein value was 2.32 mg/L.

Color Doppler Ultrasonography (USG) performed on the patient in the radiology department, rerevealed that the left ovary was 6 cm in size and there was no blood supply to the left ovary. Thereupon, it was decided to perform an emergency laparotomy for the patient. When the abdomen was entered with a Pfannenstiel incision, it was observed that the left ovary was larger than normal, edematous, dark-colored, and torsioned 4 times around itself (Figure 1). The left ovary was detorsioned and fixed by suturing to the posterior part of the uterus. This fixation was performed by superficially suturing the adnexal pedicle on the serosa of the sacrouterine ligament. No bleeding occurred during this procedure. It was observed that the color of the ovary was cleared. The operation is finished.

The patient's vital signs remained stable in the postoperative period. The patient was discharged on the second postoperative day. Pregnancy follow-up of the patient was also done in our clinic. The patient did not have any obstetric or gynecological problems in the follow-ups. The patient electively delivered two live babies by cesarean section at 37 weeks of gestation.



**FIGURE 1:** Intraoperative view of torsioned ovary and fallopian tube. It is observed that the ovary is increased in size, edematous and dark in color.

**Informed consent:** Informed consent was obtained from the participant in the case.

## DISCUSSION

Although adnexal torsion is rare during pregnancy, it should be diagnosed and treated quickly because it has high morbidity and mortality for mother and baby.<sup>8</sup> In our case, the time elapsed between the admission of the patient to our hospital and the operation was approximately 8 hours. Our patient did not have a previously followed adnexal mass and the adnexa itself was torsioned. This makes our case interesting. In IVF cycles, the risk of torsion increases because the ovaries enlarge and get heavier after hyperstimulation.

In this patient, the torsion was probably caused by hyperstimulated follicles that remained persistent with IVF treatment. The cause of adnexal torsion during pregnancy may be the increase in the size of the adnexa and changes in its structure due to the drugs given during the IVF cycle.

Torsion is more common on the right side rather than the left. In the study conducted by Novoa et al., the frequency of torsion of the right adnexa was found to be 65%.<sup>9</sup> The reason why adnexal torsion is less common on the left side is that the sigmoid colon restricts and stabilizes the movements of the left adnexa.<sup>10</sup> In our case the left adnexa torsioned.

Due to the patient's advanced gestational week and enormous uterus, laparoscopic surgery was not chosen. Considering that it would be difficult to manipulate a uterus carrying a six-month-old twin pregnancy, laparotomy was preferred.

To prevent recurrence of torsion, we sutured the ovarian pedicle to the serosa on the lateral side of the sacrouterine ligament. Thus, we ensured the fixation of the adnexa. The bleeding did not occur during this procedure because the suture to the serosa, was superficial.

In case of acute abdominal pain during pregnancy, the diagnosis of adnexal torsion should be kept in mind, especially in pregnancy obtained by IVF.

Although the physical examination is important in its diagnosis, the absence of ovarian blood flow in colour Doppler USG should be a guide. In this case, left adnexa had been detorsioned and oophoropexie fixed the ovary to the posterior part of the uterus. In this way, it was prevented from being torsioned again.

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### Conflict of Interest

*No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.*

### Authorship Contributions

**Idea/Concept:** Sitki Özbilgeç; **Design:** Ali Acar; **Control/Supervision:** Sitki Özbilgeç; **Data Collection and/or Processing:** Emine Türen Demir; **Analysis and/or Interpretation:** Sitki Özbilgeç; **Literature Review:** Emine Türen Demir; **Writing the Article:** Sitki Özbilgeç; **Critical Review:** Ali Acar; **References and Fundings:** Ali Acar; **Materials:** Emine Türen Demir.

## REFERENCES

- Hasiakos D, Papakonstantinou K, Kontoravdis A, Gogas L, Aravantinos L, Vitoratos N. Adnexal torsion during pregnancy: report of four cases and review of the literature. *J Obstet Gynaecol Res.* 2008;34(4 Pt 2):683-7. [[Crossref](#)] [[PubMed](#)]
- Robson S, Kerin JF. Acute adnexal torsion before oocyte retrieval in an in vitro fertilization cycle. *Fertil Steril.* 2000;73(3):650-1. [[Crossref](#)] [[PubMed](#)]
- Ginath S, Shalev A, Keidar R, Kerner R, Condrea A, Golan A, et al. Differences between adnexal torsion in pregnant and nonpregnant women. *J Minim Invasive Gynecol.* 2012;19(6):708-14. [[Crossref](#)] [[PubMed](#)]
- Wiser A, Levron J, Kreizer D, Achiron R, Shrim A, Schiff E, et al. Outcome of pregnancies complicated by severe ovarian hyperstimulation syndrome (OHSS): a follow-up beyond the second trimester. *Hum Reprod.* 2005;20(4):910-4. [[Crossref](#)] [[PubMed](#)]
- Yen CF, Lin SL, Murk W, Wang CJ, Lee CL, Soong YK, et al. Risk analysis of torsion and malignancy for adnexal masses during pregnancy. *Fertil Steril.* 2009;91(5):1895-902. [[Crossref](#)] [[PubMed](#)]
- Pinto AB, Ratts VS, Williams DB, Keller SL, Odem RR. Reduction of ovarian torsion 1 week after embryo transfer in a patient with bilateral hyperstimulated ovaries. *Fertil Steril.* 2001;76(2):403-6. [[Crossref](#)] [[PubMed](#)]
- Hasson J, Tsafirir Z, Azem F, Bar-On S, Almog B, Mashiach R, et al. Comparison of adnexal torsion between pregnant and nonpregnant women. *Am J Obstet Gynecol.* 2010;202(6):536.e1-6. [[Crossref](#)] [[PubMed](#)]
- Yu M, Liu Y, Jia D, Tian T, Xi Q. Adnexal torsion in pregnancy after in vitro fertilization: case report and literature review. *Medicine (Baltimore).* 2021;100(3):e24009. [[PubMed](#)] [[PMC](#)]
- Novoa M, Friedman J, Mayrink M. Ovarian torsion: can we save the ovary? *Arch Gynecol Obstet.* 2021;304(1):191-5. [[Crossref](#)] [[PubMed](#)]
- Sasaki KJ, Miller CE. Adnexal torsion: review of the literature. *J Minim Invasive Gynecol.* 2014;21(2):196-202. [[Crossref](#)] [[PubMed](#)]