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## Successful Outcome of Pregnancy after Cystectomy for Twisted Ovarian Cyst : A Case Report

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**Abstract- Aim & Background:** Though ovarian masses during pregnancy are relatively common, its complication can pose a significant risk to pregnant woman and her fetus.

Two most common complications of ovarian mass are torsion and hemorrhage. Ovarian torsion encountered during pregnancy carries a significant risk to pregnant woman and intrauterine foetus. We present an interesting case of complication of an ovarian cyst in 2nd trimester of pregnancy and how it was managed with a successful antenatal outcome.

**Case Description:** In this case we report a 28 -year-old second gravida with 26 weeks of pregnancy presenting with torsion of the right ovarian cyst. She presented to the emergency with acute pain in abdomen and vomiting. She was diagnosed to have torsion of ovarian cyst with 26 wks live pregnancy. Emergency exploratory laparotomy followed by right ovarian cystectomy was done. Histopathology report showed a haemorrhagic ovarian cyst. Her pregnancy was followed up and was uneventful.

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# Successful Outcome of Pregnancy after Cystectomy for Twisted Ovarian Cyst : A Case Report

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**Conclusion:** Ovarian torsion in second trimester of pregnancy, though is an extremely rare problem in pregnancy, adnexal torsion should be taken into consideration in the differential diagnosis of acute abdominal pain and urgent Ultrasound aids in diagnosis.

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## CASE REPORT

### I. BACKGROUND

The incidence of adnexal masses in pregnancy ranges from 1 in 81 to 1 in 8000 pregnancies<sup>1</sup>. The most frequent types of ovarian masses in pregnancy are corpus luteum cysts, endometriomas, benign cystadenomas, and mature cystic teratomas called dermoids. Because pregnant women are usually young, malignant tumors and those of low malignant potential are proportionately uncommon and vary from 4 to 13 percent<sup>2</sup>.

Most ovarian masses are asymptomatic in pregnant women. Some cause pressure or chronic pain however acute abdominal pain may be due to torsion, rupture, or hemorrhage. Torsion of ovary is the total or partial rotation of the adnexa around its vascular axis or pedicle. Minimal or early twisting may compromise only venous flow, thus leaving arterial supply intact.

Complete torsion causes total blockade of venous and lymphatic supply that leads to venous congestion, haemorrhage and necrosis, subsequently cyst becomes tense and may rupture.

The risk of ovarian torsion rises by 5 fold during pregnancy. Incidence is 5 per 10,000 pregnancies<sup>3,4</sup>. Torsion of ovarian tumors occurs predominantly in the reproductive age group. The majority of the cases presented in pregnant (22.7%) than in non-pregnant (6.1%) women<sup>5</sup>.

Patient usually presents with acute pain in lower abdomen that frequently is accompanied by nausea and vomiting. Pelvic examination may reveal a tender cystic mass separate from the uterus.

Sonography aids in diagnosis and with Color Doppler, presence of ovarian mass with absent flow strongly correlates with torsion. Here, we report a case of torsion of ovarian cyst during second trimester of pregnancy with no known predisposing factors.

### II. CASE DESCRIPTION

A 28 year old second gravida who delivered her first child vaginally 2 years back presented in the emergency on 26/8/2016 with history of 6 months pregnancy with dull aching pain since 1 month & acute pain in abdomen and vomiting for one day. Pt gave history of abdominal pain since 1 month for which pt had shown in private where she was started on tocolytic agents.

Now she had acute pain since morning associated with nausea. On examination she was afebrile with pulse of 100/min and BP-120/80 mm Hg.

On examination her fundal height was corresponding to 26 weeks of gestation with Fetal heart sounds 150/m. Per abdomen tenderness was present in right iliac fossa region. There was no guarding/rigidity. Pelvic examination revealed cervical motion tenderness and right adnexal fullness.

Urgent USG done showed a single viable fetus of 26 weeks maturity and a septated cyst (10.6 × 8.4) cm in right lumbar region extending upto umbilicus probably originating from right ovary with absent flow. All other investigation reports were within normal limit. Patient was counselled about the risk of preterm labor

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and informed consent for exploratory laparotomy with possible need for salpingoophorectomy taken.

During laparotomy (10 ×8) cm black gangrenous cyst was found in the right adnexa which was twisted around its pedicle 3 times (Figure 1 & 2).

Right fallopian tube was found gangrenous, attached to the cyst. No free intraperitoneal fluid was found. Uterus was 26-28 weeks in size. Left sided fallopian tube and ovary were healthy. Right salpingoophorectomy was done without untwisting its pedicle.



*Figure 1:* Twisted rt ovarian cyst with 26 wks pregnant uterus.



*Figure 2:* Specimen of 10 x 8 cm twisted rt ovarian cyst.

Post op she was started on injection Duvadilan. Her post operative period was uneventful and she was discharged on 7th postoperative day.

Histopathological examination of the specimen showed haemorrhagic ovarian cyst.

She was followed up in the antenatal clinic where rest of her antenatal period was essentially uneventful. Her follow up USG scans showed normal growth and development of the fetus.

On 11/12 2016, she was admitted at 40 wks in prelabour and she delivered vaginally 2.9 kg male baby.

### III. DISCUSSION

The management of ovarian tumors during pregnancy can be challenging because of the risk of fetal wastage and the possibility of surgery-related complications, or a delayed diagnosis of a possibly lethal disease or malignancy. Ovarian masses should be managed conservatively, because the majority of

ovarian tumors in pregnant women spontaneously disappear during follow up<sup>6</sup>.

Most ovarian masses are detected during routine prenatal sonography or during imaging done for other indications. The typical sonographic appearance of these masses are as - A simple anechoic cyst with smooth wall is characteristic of a physiological corpus luteum cyst or benign cystadenoma, Cystic structure with diffuse internal low level echoes suggestive of an endometrioma or hemorrhagic corpus luteum cyst. In some instance MR imaging can be used to evaluate complicated anatomy<sup>2</sup>. CA 125 levels are frequently elevated with ovarian malignancy.

If a cystic benign appearing mass is <5cm, it often requires no additional antepartum surveillance. Tumor between 5 and 10 cm should be carefully evaluated by sonography along with color Doppler and possibly MR imaging. For cyst >10cm, because of substantial risk of malignancy, torsion or labor obstruction surgical removal is reasonable.

Complications of the ovarian cysts in pregnancy are torsion of the cyst, rupture, infection, malignancy, impaction of cyst in pelvis causing retention of urine, malpresentation of foetus and during labour obstructed labour<sup>6</sup>. Early diagnosis is essential as it makes a conservative approach possible. When diagnosis is made earlier, simple detorsion is possible with good functional results.

The diagnosis of twisted ovarian cyst, which is an acute abdominal emergency, can be made in the majority of cases, although the symptoms are nonspecific for ovarian torsion. The usual symptoms of torsion of an ovarian cyst are acute, colicky pain in the lower abdomen, with vomiting and tenderness. If torsion is suspected, laparoscopy or laparotomy is warranted. If the adnexa is healthy, there are two options. First, neoplasms are resected, ovarian cystectomy done if ischemic and oedematous ovary as it may be technically difficult, and adnexectomy may be necessary. Second unilateral or bilateral oophorectomy has been described to minimize the risk of repeated torsion<sup>2</sup>.

Evacuation by needle aspiration is not recommended in pregnancy<sup>7</sup>.

Differential diagnosis of ovarian cyst torsion in pregnancy includes: uterine leiomyomas, non pregnant horn of bicornuate uterus, appendiceal abscess, diverticular abscess, pelvic kidney, retroperitoneal tumours, ectopic pregnancy and retroverted gravid uterus<sup>5</sup>.

#### IV. CONCLUSION

The management of ovarian cyst in pregnancy is usually conservative with serial ultrasound monitoring. The nature of an ovarian cyst should be studied in detail and malignancy has to be ruled out. Ovarian torsion in second trimester of pregnancy, though is an extremely rare problem in pregnancy, adnexal torsion should be taken into consideration in the differential diagnosis of abdominal pain. Treatment options are limited to surgery, either by laparoscopy or laparotomy. In our case we performed a laparotomy with Pfannenstiel incision, and did not attempt to untwist the adnexa because of widespread necrosis.

#### *Clinical Significance*

Most common cause of ovarian cyst in pregnancy is corpus luteum cyst which regresses by 12 to 16 weeks<sup>8</sup>. Ovarian torsion, therefore, occurs most frequently in the first trimester, occasionally in second, and rarely in third<sup>8</sup>. If the ovarian cyst is diagnosed in the first trimester, it is better to wait till 16 wks when the implantation of pregnancy is more secure and also the cyst may disappear spontaneously. Persisting tumours are treated by cystectomy or ovariectomy as indicated. Ovarian tumour or cyst can be easily removed till 28 wks of gestation thereafter not only it becomes hard to

access but also operation may precipitate preterm labour.

Previously untwisting of the pedicle was avoided to prevent emboli and toxic substances related to hypoxia, from entering peripheral circulation, but recently, re-establishing ovarian circulation by untwisting, has shown to improve circulation in viable ovarian tissue with no systemic complications<sup>3,4</sup>. Obviously in cases where ovarian cysts have undergone gangrenous changes, untwisting are not tried, which was present in the present case. Thus each case has to be individualized, and the management should be done accordingly.

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