

Baby and the Bubble (Ovarian Cyst in Pregnancy)

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Abstract: The incidence of adnexal masses in pregnancy ranges from 1 in 81 to 1 in 8000 pregnancies. The incidence of ovarian cyst in pregnancy is increased with the use of dating ultrasound in the first trimester and also due to an increase in ovulation induction. Associated complications-torsion, rupture, infection, malignancy, impaction of cyst in the pelvis causing retention of urine, obstructed labor and malpresentation of the fetus. Here, we have presented 10 different cases of ovarian cyst in pregnancy, their management either conservatively or surgical and their outcome. This study showed that asymptomatic and benign cysts can be managed conservatively and typically resolve through the pregnancy or in the postnatal period. However at any time, if there is any complications intervention is needed where laparoscopy is warranted until 16-23 weeks, after which laparotomy is the most evaluated method. Caesarean section is warranted only if a cyst in the pelvis will obstruct labour and during which removal of a cyst should be performed. Prospective study done during – 2015 April-2017 April.

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I. Introduction

1. Incidence (adnexal masses in pregnancy) - 1 in 81 to 1 in 8000 pregnancies (OVULATION INDUCTION)[4]
2. Diagnosis is increased with the use of ultrasound in the first trimester.
3. It increases anxiety to the pregnant women as it involves increased investigations, admission and antenatal visits.

The most common cyst in pregnancy [2,3]

Dermoid 25%,	Corpus luteal cyst, functional cyst,
Paraovarian 17%,	Serous cystadenoma 14%,
Mucinous cystadenoma 11%,	Endometrioma 8%,
Carcinoma 2.8%,	Low malignant potential tumor 3%
Leiomyoma 2%.	

1. Complications of the cyst associated with pregnancy.
2. To R/O - Differential diagnosis.
3. Asymptomatic and benign cysts - managed conservatively, typically resolve through the pregnancy or in the postnatal period.
4. Persistent symptomatic ovarian cysts - increased risk for complications – surgical intervention may be done.
5. Ideal surgical option- laparoscopy at 16-23 weeks of gestation, beyond which laparotomy is warranted.
6. However at any time, if there is evidence of complications immediate surgery is required.

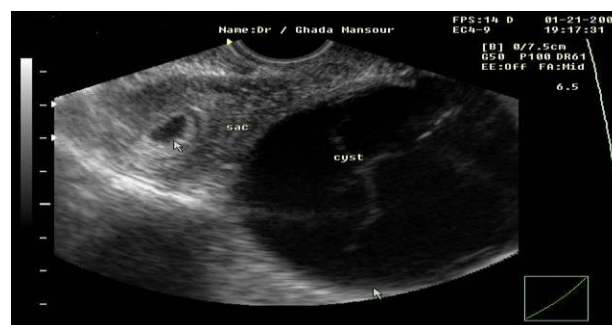


Fig 1 - Intrauterine gestation with ovarian cyst.

II. Primary Objective

1. To Assess The Maternal And Fetal Outcome Of Ovarian cyst complicating pregnancy In A Tertiary Care Centre.

III. Materials And Methods

1. Type Of Study:- Prospective Study.
2. Period Of Study:- April 2015- April 2017.
3. Place Of Study:- Sri Ramachandra Medical College & Research Institute.
4. Inclusion Criteria:- Patients with Ovarian cyst complicating pregnancy.
5. Detailed History of woman and thorough clinical examination and routine antenatal investigations were done.
6. Ultrasonography, Doppler if needed.
7. Special tests- Tumour markers- CA 125, CA 19.9, Sr.beta HCG, AFP, LDH.

IV. CaseDiscussion

1. This study involves a series of **10 cases** presenting with **Ovariancyst complicating pregnancy**.
2. Their incidence, course during antenatal period, complications, interventions needed- conservative or surgical management and pregnancy outcome have been studied.

4.1 Period of Gestation

1. Diagnosed in 1st TRIMESTER – due to routine 1st trimester Ultrasound.

4.2 PRESENTING SYMPTOMS

1. Acute pelvic pain
2. Vomiting

TABLE 1 -USG FINDINGS (n=10)

FEATURES	SIMPLE CLEAR CYST	HAEMORRHAGIC	ENDOMETRIOTI C CYST	COMPLEX CYST WITH SOLID COMPONENTS/ SEPTATION
CASES	5	1	1	3
1	+(3.5X2.7cm)			
2			+(3X3cm)	
3		+(3.7X2.8cm)		
4	+(2.3X3cm)			
5	+(6x6cm)			
6				+(8.3 X5.8X5.3cm)
7	+(6.5X4.3cm)			
8				+(21.2X24.6X18.6cm)
9				+11X10cm with solid area 4.3X4.7
10	+10X3X7.8cm			

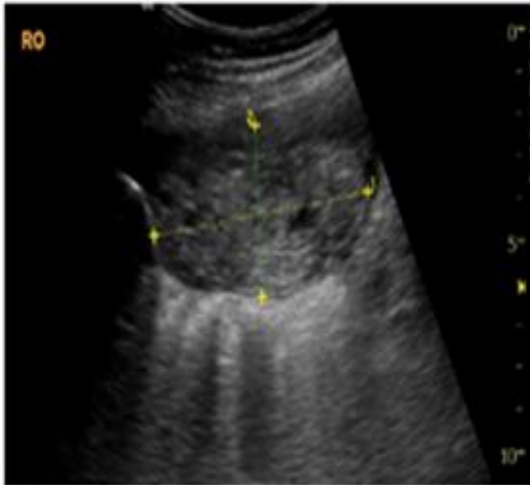


Fig 2 – complex ovarian cyst with solid components..



Fig 3 - ovarian cyst with vascularity

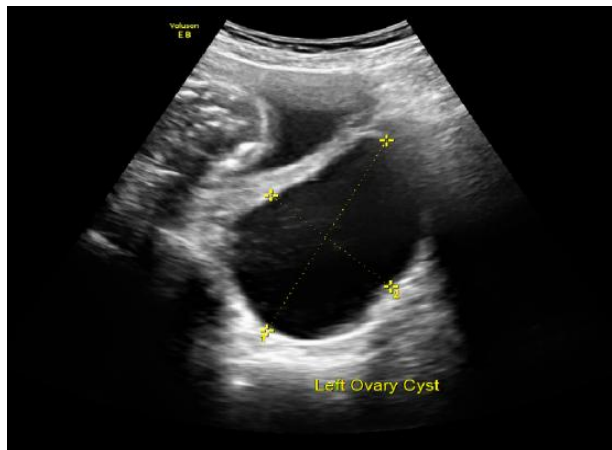


Fig 4 - simple ovarian cyst

4.3MRI

1. Large complex abdomino-pelvic lesion 22.7 X 14.4 X 24.8 cm, with solid lesion 2.6 X 1.5cm, with mild ascitis, mild hydroureteronephrosis.
2. Large complex cystic lesion 8.6 X 12.2 X 15cm in with solid components 3.8 X 2.6cm with evidence of torsion.

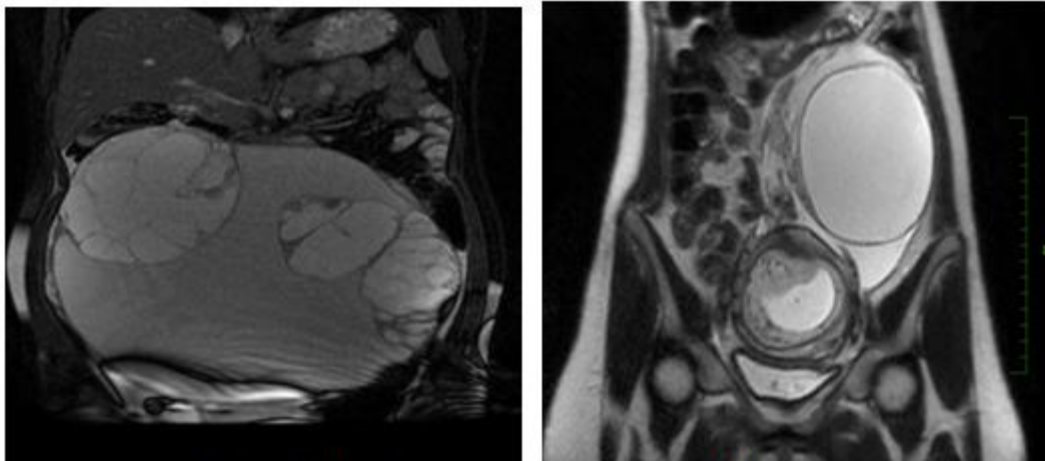


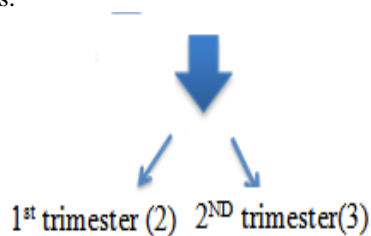
Fig 5 & 6 - MRI showing complex ovarian cyst probably malignancy.

TABLE 2 - laboratory investigations - special test

INVESTIGATIONS	CA 125	CA 19.9	Sr,BetaHCG	LDH	AFP	RMIScore
CASE						
1	9.5	-	14,645	-	261	9.5
2	40.5	-		-		40.5
3	5	-				5
4	11	-				11
5	12.5	-				12.5
6	9	-				9
7	14.5	-				14.5
8	32.6	160	1,65,813.7	146	10.7	130.4
9	56	-	1,53,896		6.2	224
10	8.3	-				8.3

4.4Period Of Intervention

1. In our study of 10 patients –
2. 5 needed only conservative management.
3. 5 patients needed surgical interventions.



V. Intervention

In our study among 10 patients 5 needed surgical intervention – 2 laparotomy&3 laparoscopy.

1. 2 patients had laparoscopic cystectomy.
2. 3 patients had salphingo-ophorectomy.
 - 1 patient had laparoscopy -Torsion with evidence of gangrene.
 - 2 patients had laparotomy - had frozen section showing malignancy.



Fig 7 - Simple cyst - clear fluid drained.



Fig 8 - Torsion ovary

5.1 Histopathology

1. Benign mature cystic teratoma.
2. Simple serous cystadenoma.
3. Ovarian with F/S/O necrosis/ gangrene.
4. Borderline serous tumour- serous papillary cystadenocarcinoma.
5. Well-differentiated borderline mucinous tumour.

5.2 Mode Of Delivery

1. Of 10 patients – 2 patients - Medical termination of pregnancy.
2. 8 patients – Normal vaginal delivery
3. Showing that ovarian cyst persae is not an indication for caesarean.

5.3 Follow Up

1. 2 Patients underwent MTPI/V/O MALIGNANCY and needed chemotherapy.
2. Of the 5 patients who were managed conservatively-
3. 2 Patients recently delivered are in follow up.
4. 1 underwent laparoscopic cystectomy after 7 months as cyst size remained same – 6 X 6cm. HPE- serous cystadenoma.
5. 1 patient who had hemorrhagic cyst on repeat USG - cyst regressed.
6. 1 patient lost follow up postnatal.

5.4 Summary Of Observation

1. In our study – 10 patients presenting with ovarian cyst in pregnancy were followed up through out the pregnancy and postnatal.
2. 6 – Presented with symptoms.
3. 3 – had significant laboratory& radiology findings.
4. 5 - were managed conservatively.
5. 5 - needed surgical interventions- 2 TERMINATION followed by laparotomy & 3 - laparoscopy.

5.5 Nature of cyst

1. Of the 10 patients 2 – Malignancy
2. 3 - Benign cysts.
3. 1 required intervention postnatal– benign cyst.

VI. Review of Literature

1. In a study – 22 patients of ovarian malignancies complicating pregnancy were treated at Peking Union Medical College Hospital between 1985 and 2003. [1]
2. The incidence - 0.073/1000 pregnancies.
3. 9 (40.9%) - ovarian malignant germ cell tumors, 6 (27.3%) - low malignant potential tumors, 5 (22.7%) - invasive epithelial tumors, and 2 (9.1%) - sex cord stromal tumors.
4. Sixteen (72.7%) - stage I and had achieved complete remission. Four of the five in advanced stage died.
5. Ascites presenting at diagnosis implies advanced disease and gloomy prognosis.
6. The prognosis was significantly related with stage and histologic type ($P < 0.05$).
7. The clinical characters and prognosis of ovarian cancer are similar to those of nonpregnant, reproductive-age women.
8. Management depends on histology of the tumor, stage of the tumor, and the term of the pregnancy.
9. In most cases, conservative surgical treatment could be performed with adequate staging and debulking equal to the treatment of nonpregnant women.
10. Chemotherapy
11. In another study 71 patients had a diagnosis of ovarian cyst during pregnancy were followed at the University Hospital of Lille during the study period.
12. Diagnosis - first quarter in majority of cases, at 12.30 ± 6.99 weeks of amenorrhea (WA).
13. Operated during pregnancy (19.72%) - 7 emergency & 7-programmed intrapartum interventions.
14. Performed per caesarean section.
15. Operated cysts - organic cysts (74.39%). No malignancies were observed, and 3 - borderline tumors were diagnosed. There were no obstetrical or neonatal complications.

VII. Conclusion

1. Ovarian cysts or masses during pregnancy should be accurately evaluated to decide the most appropriate treatment option.
2. Ultrasound and MRI are safe and allow distinguishing between benign and malignant lesions.
3. A wait-and-see strategy is advised for an ovarian cyst with benign features.
4. Tumor markers - lack of specificity,
5. Adnexal torsion is an emergency condition that should not be ignored in the case of acute pelvic pain in pregnant women.
6. Masses with septa, solid components, papillae or nodules, or when persisting after 16 weeks of pregnancy should be further investigated.
7. Treatment options including surgical procedures should be discussed for each patient individually.
8. Open surgery & laparoscopy can be performed considering the tumour diameter, gestational age and surgical expertise.
9. In advanced stage invasive ovarian cancer if diagnosed, termination of pregnancy may be considered in early pregnancy, otherwise chemotherapy – 2 & 3rd trimester.
10. When there is high suspicion of malignancy, a multidisciplinary approach is necessary, and preferably patients should be referred to Centre's with specialized experience.

References

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