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Morphological Spectrum Of Ovarian Tumours Associated With Pregnancy – A Series Of Ten Cases.

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ABSTRACT:
Objective: The purpose of this study was to subclassify ovarian tumours associated in pregnancy, their clinical presentation and time of presentation.
Methods: A review of 10 women diagnosed to have ovarian tumour associated with pregnancy who had been presented at a tertiary care institute between January 2019 to June 2020. The main symptom of presentation due to ovarian tumour, gravida, age, trimester at presentation, clinico-radiological diagnosis, size of the tumour, treatment, histopathological typing, pregnancy outcome and maternal survival were observed.
Results: Out of 10 cases, two cases were malignant; both the cases were asymptomatic and diagnosed during routine ultrasonography and malignant nature was diagnosed on histopathological examination only. Out of 10 cases, five cases were had findings of torsion. Almost all cases were in 3rd decade and five cases were primi-gravida. Six cases were diagnosed as mature cystic teratoma and one as borderline mucinous tumour. Pain abdomen was the main symptom in six cases and four patients were in 2nd trimester and another four asymptomatic cases were in 3rd trimester.
Conclusions: Ovarian tumors in pregnancy are usually diagnosed early due to frequent routine examinations. Torsion of the ovarian tumour and malignancy are the two main serious issues to look after during pregnancy period and malignancy may be associated with pregnancy without any symptom.
KEYWORDS: Ovarian tumour; pregnancy; mature cystic teratoma, torsion.

I. INTRODUCTION

Ovarian tumours are estimated to complicate approximately 2.8–11 in 100,000 pregnancies.[1] Among these tumours, approximately 5% are malignant.[2] Currently, an ultrasound is routinely used early in pregnancy, and this has led to an early diagnosis and management of asymptomatic ovarian tumors. Surgical management of an adnexal mass diagnosed during pregnancy creates a dilemma to gynaecologists. It is difficult to discriminate ovarian malignancies from functional cysts or benign ovarian tumors. So; histopathological examination of every case is essential to rule out malignancy.

II. MATERIAL AND METHODS

We retrospectively analyzed the medical records of patients (n=10) with ovarian tumours associated pregnancy who were operated at Fakhruddin Ali Ahmed Medical & Hospital between January 2019 to June 2020. Records are collected from the Histopathogy section of Department of Pathology, Fakhruddin Ali Ahmed Medical & Hospital and histopathological slides were reviewed.
Study Design: Retrospective observational study.
Study Location: This was a tertiary care teaching hospital based study done in Department of Pathology, at Fakhruddin Ali Ahmed Medical College & Hospital, Barpeta, Assam.
Study Duration: January 2019 to June 2020.
Sample size: 10 patients.

III. RESULTS

In those patients, variables like gravida, age, main symptom of presentation due to ovarian tumour, trimester at presentation, clinico-radiological diagnosis, size of the tumour, histopathological typing were observed (Table-I). All cases were in 3rd decade and five cases were primi-gravida.

Out of 10 cases, two cases were malignant; one was serous papillary adenocarcinoma and other one was yolk sac tumour. Both the cases were asymptomatic and diagnosed during routine ultrasonography and malignant nature was diagnosed on histopathological examination only. Sizes of both the cases were more than 10 cm in greatest dimension. Yolk sac tumour case was associated with contralateral mature cystic teratoma. Yolk sac

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tumour case was confirmed by histopathological examination followed by positive immunohistochemistry for α-feto protein and elevated serum α-feto protein.

Out of 10 cases, five cases were had findings of torsion and presented with pain abdomen. Sizes of all five cases were ranges from 4 cm to 18 cm with a mean of 10.8 cm in greatest dimension. Out of these five cases, one case was presented at 1st trimester, another one presented at 3rd trimester and other three cases were presented at 2nd trimester. Out of these five cases, three cases were diagnosed histopathologically as mature cystic teratoma and other two were diagnosed as serous cystadenoma and haemorrhagic/endometriotic cyst.

Out of 10 cases, six cases were diagnosed as mature cystic teratoma and one as borderline mucinous tumour. Other cases were diagnosed as serous cystadenoma, haemorrhagic/endometriotic cyst, serous papillary adenocarcinoma, yolk sac tumour.

Out of 10 cases, pain abdomen was the main symptom in six cases, out of which four patients were in 2nd trimester, one in 1st trimester and remaining one in 3rd trimester. Remaining four patients were asymptomatic and presented in 3rd trimester.

Table I : Clinical and pathological profiles of patients with ovarian tumour diagnosed during pregnancy

Serial No	Age (Yrs)	Gravida	Main symptom of presentation	Trimester at presentation	Clinico-radiological diagnosis	Size of the tumour (cm)	Histopathological typing of the tumour
1	29 yrs	G4P3	Asymptomatic	20 + weeks	Right adnexal mass	(10.5x7x5.5) cm	Serous papillary adenocarcinoma.
2	25 yrs	Primi	Asymptomatic	Term pregnancy	B/L ovarian cyst.	Left - (15x8x6) cm & Right - (4x3x3) cm	Yolk sac tumour in left ovary and mature cystic teratoma in Right ovary.
3	21 yrs	Primi	Pain abdomen	20 weeks	Torsion of Right ovarian cyst	(9x4.5x3.8) cm	Mature cystic teratoma with evidence of torsion
4	30 yrs	G3P1	Pain abdomen	14 weeks	Twisted left sided ovarian cyst	(11x8x8) cm	Mature cystic teratoma
5	20 yrs	Primi	Pain abdomen	Ectopic pregnancy	Left sided ovarian cyst and Right sided ectopic pregnancy	(5x4x4) cm	Serous cystadenoma
6	26 yrs	G2P1	Pain abdomen	17 weeks	Twisted ovarian cyst	(12x8x8) cm	Haemorrhagic/ Endometriotic cyst
7	22 yrs	G2P1	Pain abdomen	7 weeks	Twisted dermoid cyst	(4x4x3) cm	Mature cystic teratoma
8	23 yrs	Primi	Pain abdomen	36 weeks	Twisted Right sided dermoid cyst/ovarian tumour	(18x12x8) cm	Borderline mucinous tumour of ovary
9	24 yrs	G2P1	Asymptomatic	37 weeks	Left sided dermoid	(5x5x5) cm	Mature cystic teratoma

					cyst		
10	28 Yrs	Primi	Asymptomatic	36 + weeks	Right dermoid cyst	(4x3x3) cm	Mature cystic teratoma

IV. DISCUSSION

We have discussed the variables observed in this case series and compared with well knowned established studies. With the wide use of routine prenatal ultrasound, finding of an adnexal mass in pregnancy is increasing[3]. Several studies like Zanotti KS et al[3], Dgani R et al[4], Copeland LJ et al[5], Behtash N et al[6]; have reported that the histologic types of ovarian cancers during pregnancy are similar to those for non-pregnant women in the corresponding reproductive-age group.

Mature cystic teratoma was the commonest tumour found in this series which one similar to O Tariel et al[7], A R el-Yahia et al[8], Krzystof Drews et al[9] and Anita Olejek et al[10].

Out of 10 cases, half of the cases were asymptomatic which is similar to Gezginç K et al[1].

The main complication of benign ovarian tumor during pregnancy is adnexal torsion and is estimated at around 8%, especially at the end of the first trimester and during the second trimester[7]. In our case series also, torsion was the most common complication (5/10 cases) and 3/5 cases were in 2nd trimester which is similar to Tariel et al[7].

Surface epithelial ovarian carcinoma is the most common type of ovarian cancer according to Gezginç K et al[1]. In our series, two malignant cases were diagnosed histopathologically; one was serous papillary adenocarcinoma and other was Yolk sac tumour; which are similar to Krzystof Drews et al[9].

Ultrasound remains the gold standard for characterizing an ovarian tumor during pregnancy, but with a lower specificity for the diagnosis of malignancy according to O Tariel et al[7]. Both malignant cases in our series were reported as complex ovarian cyst in imaging studies which supports O Tariel et al[7].

V. CONCLUSION

Torsion of the ovarian tumour and malignancy are the two main serious issues to look after during pregnancy period and malignancy may be associated with pregnancy without any symptom. So, through clinico-radiological evaluation with histopathological examination of ovarian tumours are essential.

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