ORIGINAL ARTICLE

Management of Ovarian Cyst in Pregnancy and its Effect on Pregnancy Outcome

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ABSTRACT

Objective: To evaluate management options for ovarian cyst in pregnancy and its effects in pregnancy
Study design: Descriptive Study
Place and duration: This study was carried out at Lady Willingdon hospital over a period of one year from June 2007 to June 2008.
Patients and methods: During the study period, 4500 pregnant women were entertained at Lady Willingdon Hospital. Out of these, 16 were diagnosed as pregnancy with ovarian cyst at antenatal clinic as well as in emergency labor room. Out of these 16 patients, 10(62.5%) were diagnosed during pregnancy by ultrasonography, 2(12.5%) were diagnosed before pregnancy. Only 3 cases presented with ovarian cyst torsion and 1 with ovarian cyst rupture. The mean diameter of cyst at presentation was 9.05+/-7.6 cm. All patients initially managed conservatively. 4 patients had emergency laparotomy due to ovarian cyst torsion and rupture.2 patients had elective laparotomy in second trimester due to large size. 10 patients had laparotomy in the post partum period. Regarding pregnancy outcome only one pregnancy ended into miscarriage and all remaining patients had a term delivery. All lesions were sent for histopathology 15 lesions were benign cystadenomas and only 1 was dermoid cyst.
Conclusion: Scarce data exist regarding management of ovarian cyst. Ovarian cysts complicate only 0.35% of pregnancies. We concluded that optimal management for ovarian cyst is conservative in pregnancy provided patient remain asymptomatic and characteristic of cyst are consistent with benign pathology.
Key words: Ovarian cyst, pregnancy.

INTRODUCTION

The finding of an incidental adnexal mass in pregnancy has become more common with routine use of ultrasonography. Adnexal mass complicate 1 in 190 pregnancies. The different adnexal mass during pregnancy includes physiological ovarian cyst (50%), dermoid cyst (37.4%), endometrioma (14%), corpus luteal cyst (12.1%), hydrosalpinx (8.4%), and neoplasm (0.9%)[1].

Simple adnexal masses are liable to torsion during pregnancy which reported in less than 1% of the patients with masses greater than 4cm. Other complications such as infarction, hemorrhage, and rupture may also occur and lead into acute abdominal pain[2]. Nevertheless, torsion may occur without symptoms and may require emergency laparotomy[3].This can lead to adverse perinatal outcome although the association between adverse perinatal outcome and adnexal mass is not apparent[4].

There is a tendency towards higher growth rate of dermoid cyst in premenopausal women[5]. Such growth may be influenced by hormonal changes during pregnancy[6]. To avoid these complications different studies have suggested for elective removal of the cyst during second trimester[7,8] .On the other hand by postponing the surgery until the postpartum period one can avoid possible adverse effects of the surgery and anesthesia to the fetus. Whenever a caesarean delivery is performed for obstetrical indications, ovarian cystectomy can be performed at that time, avoiding the need for additional surgical intervention[9].

The management of asymptomatic adnexal masses that persist during pregnancy remains controversial. A small research performed on 49 women with dermoid cyst during pregnancy indicated that no complication and no accelerated growth were observed[6]. On the contrary, additional study has shown that incidence of preterm delivery in patients who underwent adnexal mass surgery (laparotomy or laparoscopy) was higher than in non surgical population[10]. Accordingly several authors have concluded that women with ovarian cyst should undergo conservative management during pregnancy[3,6]. This approach is reinforced by the fact that sonographic characteristic of the mass can assist in determining which patient is at risk for malignancy and require antepartum surgery, as opposed to those patients with benign disease who can be followed[9].

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The present study was design to find out optimal management for ovarian cyst during pregnancy and its effect on pregnancy outcome.

PATIENTS AND METHODS

The study was performed from June 2008 to June 2009 on pregnant women who presented with adnexal mass at Lady Willingdon hospital. The patients in this study were either being followed during their pregnancies at antenatal clinic of the hospital, or were presented to emergency department with some complication in already existing ovarian cyst. During one year study period ,4500 patients were delivered at the institute , out of these 4500, 16 were identified to have ovarian cyst .The relevant data was documented according to specially design performa with written informed consent. Following clinical characteristic were evaluated, maternal age, gravidity, parity, gestational age, use of fertility drugs. Following complications regarding the ovarian cyst were evaluated, ovarian cyst torsion, hemorrhage, rupture, abdominal surgery due to cyst during pregnancy and hospitalization due to abdominal pain and pregnancy outcome in form of abortion, vaginal delivery and caesarean section noted in these patients. All lesions managed surgically sent for histopathology.

RESULTS

Total no of deliveries during study period was 4500, out of these 16 patients had adnexal mass (0.35%). Maternal age ranged from 20 to 35 years. Table 1. 93.75% patients were recruited from antenatal clinic and only 6.25% patients were recruited from emergency department. Most of the lesions [11 cases (82.25%)] were diagnosed during pregnancy by routine antenatal ultrasonography. 2 (12.5%) cases already knew about adnexal lesion. Only 1 (6.25%) case was presented to emergency department with ruptured ovarian cyst diagnosed after emergency laparotomy. the mean diameter of the cyst at diagnosis was 9.05+/- 7.6 cm.

Only 2 patients [12.5%] were primigravidas, 14 patients [87.5%] were multigravidas. Table 2.None of the patient had fertility drugs.table3.4 [25%] patients has gestational amenorrhea >28weeks.Only 6.25%patients had gestational amenorrhea of 8weeks and remaining 68.75% patients had gestational amenorrhea b/w 16-26weeks. Only 1 patient [6.25%] presented with severe abdominal pain and symptoms of shock to emergency department and on laparotomy ruptured ovarian cyst diagnosed.

Initially all cases managed by conservative approach and routine antenatal care provided to each patient and adnexal mass followed ultrasono-graphically. Patients were educated about symptoms of torsion, ruptured, hemorrhage in cyst like abdominal pain, vomiting. During follow period 2[12.5%] patients developed ovarian cyst torsion and emergency laparotomy done in these patients. Elective laparotomy done in 2[12.5%] patients due to ovarian cyst size >20cm.6patients hospitalized due to abdominal pain and symptomatic treatment given to them. Remaining patient remained asymptomatic.

Regarding pregnancy outcome only 1[6.25%] patient, after emergency laparotomy had miscarriage.15[93.75%]patient had term pregnancies.425%] patients delivered by caesarean section due to mal-presentation, placenta previa and fetal distress and ovarian cystectomy done at the same time.11 patient delivered vaginally.62.5% patient underwent surgery in postpartum period.
On histopathology most of the lesions were benign cyst adenomas [70%]. Dermoid cyst found only18.75% cases.

Table 1: Distribution of cases according to maternal age [n=16]

Age in years	=n
20-25	3
25-30	3
30-35	10

Table 2: Distribution of cases according to gravidity [n=16]

Gravidity	=n	%
Primigravida	2	12.5
Multigravida	14	87.5

Table 3: Distribution of the cases according to cyst complications[n=16]

Cyst complication	=n	%age
Ovarian torsion	2	12.5
Cyst hemorrhage	0	0
Cyst rupture	1	6.25
Abdominal surgery due to cyst during pregnancy	2	12.5
Hospitalization due to abdominal pain	6	37.5

Table 4: Pregnancy outcome [n=16]

outcome	=n	%age
Miscarriage	1	6.25
Term delivery	15	92.75

DISCUSSION

Scarce data exist regarding the management of benign ovarian cyst during pregnancy. The major finding of our study is that benign ovarian cysts are an incidental finding in asymptomatic women, mostly diagnosed during antenatal ultrasonography.

Previous studies have found that dermoid cyst is the most common diagnosis in the case of benign ovarian cyst in pregnancy [2,9]. However, our study found that cyst adenoma is the most common diagnosis among the pregnant women with benign ovarian cyst. Although it is not regarded risk factor for female infertility, ovarian dermoid cyst was found to be significantly associated with fertility treatment. There was no such association with the other type of cyst. The cause of this association is still unclear and should be further investigated in larger studies.

Different rates of torsion were previously reported, ranging from 0[3]-6.8%[9].In the current study same rate of complications was found including 2 cases of ovarian torsion, 1 case of cyst rupture. The rate of hospitalization due to abdominal pain during pregnancy was 37.5% of the women with benign ovarian cyst but only 2 patients 12.5%] underwent abdominal surgery. Furthermore, there were no high rates of preterm deliveries in women with ovarian cyst, which were mostly managed conservatively. Whitecar et al[12] found that adverse pregnancy outcome, including preterm deliveries and fetal losses were noted in half of the patients who underwent laparotomy during the third trimester. This has significantly less frequent if laparotomy occurred before 23 weeks of gestation. However it should be noted that some experienced gynecologist can treat these cyst laparoscopically during pregnancy[13]. Our study further support the fact that most of the cases are asymptomatic and no intervention is basically needed as was suggested by other study[4,6,8,9].

Usui et al[11] suggested that an adnexal mass might be associated with an adverse perinatal outcome. Nevertheless, in our study, benign ovarian cyst was not associated with adverse perinatal outcome. Perinatal mortality, congenital malformations and APGAR score were similar in patients with conservative management and with surgical management.

CONCLUSION

Result of our study encouraging regarding conservative management of ovarian cyst. The course of pregnancy in patients with ovarian cyst, including perinatal outcome is favourable. The cyst should be managed conservatively if possible with routine ultrasound follow up during pregnancy since complications are extremely rare.

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