Thai Journal of Obstetrics and Gynaecology
January 2009, Vol. 17, pp. 37-42

GYNAECOLOGY

Adnexal Mass with Surgical Treatment in Pregnant Women at Rajavithi Hospital :2002 - 2005

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ABSTRACT

Objective: To analyse the incidence, histopathological diagnosis and pregnancy characteristics and outcomes of pregnant women undergone surgical treatment for adnexal mass at Rajavithi Hospital.

Materials and Methods: A retrospective descriptive analysis database of pregnant women who underwent surgical treatment of adnexal mass during pregnancy in Department of Obstetrics and gynecology in Rajavithi Hospital between January 1st, 2001 and December 31st, 2005. Data collection included age, gravidity, parity, gestational age (at the time of surgery and delivery), histopathological diagnosis, maternal outcomes

Results: There were 66 pregnant women with adnexal masses that required surgical management among a total 45,333 deliveries. The incidence of pregnant women with adnexal mass requiring surgical intervention in pregnancy was 1 in 686 deliveries. Of the 57 cases had complete data for analysis, 14 patients (24.57%) underwent emergency exploratory laparotomy, 43 patients (75.43%) underwent elective exploratory laparotomy before delivery. The two most common pathological findings were mature cystic teratoma (33.33%), endometrioma (17.55%). Only 2 malignant tumors or borderline malignant tumors (3.5%) were encountered: the first one was serous cystadenocarcinoma stage Ia and the other was borderline mucinous cystadenoma. There was only 1 preterm labor (1.75%) in the elective surgery group. There were no any significant different between elective and emergency surgery groups in histopathological diagnosis, demographic characteristics and maternal outcomes.

Conclusion: The incidence of pregnant women with adnexal mass requiring surgical intervention in pregnancy was 1 in 684 deliveries. The percentage of malignant tumor or tumor of low malignant potential was 3.5%. There were no any significant difference between elective and emergency surgery groups in histopathological diagnosis, demographic characteristics and maternal outcomes.

Keywords: adnexal mass, pregnancy, surgery, malignancy

Introduction

Adnexal mass was not an uncommon condition during pregnancy. Variation in the incidence of adnexal masses in pregnancy and

malignant rate of adnexal masses had been reported.[1-8] Nowadays, routine ultrasonography in all pregnant women attending antenatal clinic is recommended in many hospitals and also at Rajavithi Hospital. So the higher incidence of adnexal mass in pregnancy in the present time compared with those in the past was suggested.

In Thailand, Chittacharoen et al reported the incidence of adnexal masses in pregnancy in Ramathibodi Hospital was 1 in 986 deliveries and 2.9% of these masses were malignant tumor.[1] Rajavithi Hospital had 5,566 total deliveries in 2007,which was one of the highest number of deliveries in Thailand.[9] Up until now there has been no any report on pregnant women complicated with adnexal masses at Rajavithi Hospital. The purpose of this study was to analyse the incidence, histopathological diagnosis and pregnancy characteristics and outcomes in pregnant women undergone surgical treatment for adnexal masses.

Materials & Methods

A retrospective analysis of the data was carried out on medical and labor records of pregnant women complicated with adnexal masses who received surgical treatment at Rajavithi Hospital from January 1st, 2001 to December 31st, 2005. Those who were finally diagnosed as ectopic pregnancy and incomplete data were excluded.

The hospital's ethics committee approved the study. The data was analyzed using chi-square test, Fisher exact test, student t-test and arithmetic mean. The level of statistical significance was set at p- value< 0.05.

Results

During the study period, there were 45,333 deliveries with 66 cases of pregnant women with adnexal mass who received surgical treatment. Nine incomplete medical records (13.6%) were excluded, therefore 57 cases were included in the study. The incidence of pregnant women with adnexal masses who received surgical treatment was 1 in 686 deliveries. All of adnexal mass were ovarian masses.

The pregnancy characteristics and outcomes are shown in Table 1. There were no significant difference between groups in mean maternal age, mean operative time, mean mass diameter, mode of delivery, gestational age (GA) at laparotomy and GA at delivery.

Spontaneous vaginal delivery was the most common mode of delivery in both groups (64.29% and 81.40% in emergency and elective operation groups, respectively). There was only 1 preterm labor in the elective operation group but no spontaneous abortion or intrauterine growth restriction in both groups

The detail of each pregnant women with adnexal mass classified by type of surgery as emergency and elective operation are shown in Table 2. Most of the cases were done by elective operation (75.43%). Table 3 shows the histopathologic diagnosis of the adnexal masses. The most common pathology in the elective operation group was mature cystic teratoma (34.88%) while those in the emergency operation group were both mature cystic teratoma and corpus luteum cyst (28.57%). There were no significant differences between groups in histopathologic diagnosis. In 14 emergency cases, 11 cases (78.57%) and 3 cases (21.43%) were operated because of twisted adnexal masses and ruptured adnexal masses, respectively.

Distribution of the size of masses varied from 3-20 cm in diameter. The most common diameter was ≤ 6 cm (43.86%), followed by 7-10 cm (38.60%), 10-15 cm (15.79%) and > 15 cm (1.75%).

Table 1. Pregnancy characteristics and outcomes in emergency operation group versus elective group

Outcome	Emergency group (N=14)	Elective group (N=43)	P - value
Mean age at surgery (years)	26.42	26.55	> 0.05
Mean operative time (minutes)	60.81	64.41	> 0.05
Mean mass diameter (cms)	6.42	6.49	> 0.05
Mean GA* at surgery (wks)	12.10	16.31	> 0.05
Mean GA* at delivery (wks)	38.15	39.03	> 0.05
Preterm labor	0	1	> 0.05
Route of delivery			
- Normal delivery	9	35	> 0.05
- Cesarean delivery	5	8	> 0.05

*GA = Gestational age

Table 2. Adnexal masses in pregnant women requiring surgical management at Rajavithi Hospital, 2001-2005

Year	Deliveries	Emergency operation(%)	Elective operation(%)	Total(%)
2001	10,129	6 (10.54)	4 (7.02)	10 (17.56)
2002	9,492	3 (5.26)	12 (21.05)	15 (26.31)
2003	9,291	2 (3.51)	8 (14.04)	10 (17.55)
2004	8,981	2 (3.51)	9 (15.78)	11 (19.29)
2005	7,440	1 (1.75)	10 (17.54)	11 (19.29)
Total	45,333	14 (24.57)	43 (75.43)	57 (100)

Table 3. Histological diagnosis of the adnexal masses

Histolopathologic diagnosis	Emergency operation (%)	Elective operation (%)	Total	%	P - value
1. Serous cystadenocarcinoma	0 (0)	1 (1.75)	1	1.75	> 0.05
2. Borderline mucinous cystadenoma	0 (0)	1 (1.75)	1	1.75	> 0.05
3. Mature cystic teratoma	4 (7.02)	15 (26.31)	19	33.33	> 0.05
4. Endometrioma	2 (3.51)	8 (14.04)	10	17.55	> 0.05
5. Serous cystadenoma	2 (3.51)	5 (8.76)	7	12.27	> 0.05
6. Mucinous cystadenoma	0 (0)	6 (10.54)	6	10.54	> 0.05
7. Corpus luteal cyst	4 (7.02)	4 (7.02)	8	14.04	> 0.05
8. Follicular cyst	2 (3.51)	3 (5.26)	5	8.77	> 0.05
Total	14 (24.57)	43 (75.43)	57	100	

Discussion

The incidence of adnexal mass in pregnancy in the present study was similar to several reported studies varies from 1: 2,059 to 1: 222 of deliveries.[1-6] Usually, ovarian malignancies are rare during pregnancy.[10] Several studies reported the malignancy rate of adnexal mass in pregnancy varied from 0.8% to 10% of total cases.[1-4, 7, 8, 10] Two out of 57 (3.50%) cases in the present study had malignant or borderline malignant tumor.

Mature cystic teratoma was still the most common histopathologic diagnosis of adnexal masses in pregnancy in most studies(15%-48%)[1-4,7, 8] and also in the present study (33.34%). Only one Indian study reported that serous cystadenoma was the most common adnexal mass in pregnancy (20%), followed by mature cystic teratoma (15%).[3]

Laparoscopic management of persistent adnexal mass during the second trimester had been reported as an another safe way compared to the conventional surgery without complications.[11-14] However, some limitations such as low number of cases and no comparative groups were noted in those studies.[11-14] The more - skilled surgeon should be needed in laparoscopic surgery when compared with laparotomy.

Bromly and Benacerraf[7] reported the success of ultrasonography in determining the cause of adnexal masses in pregnancy. They said that 89% of cases with sonographically benign appearing lesions could be avoid elective surgery. However they did not clearly mention about the negative predictive value and false negative rate. Only low positive predictive value(7.1%) was reported.[7]

Color Doppler sonographic criteria for parameters already reported for complex adnexal masses in non-gravid patients to differentiate benign and malignant complex adnexal masses in pregnant patients had been reported by Wheeler et al.[15] When pulsatility index (PI) of less than 1.0 was used, the sensitivity of malignant and low malignant potential lesions was 89% and the negative predictive value (NPV) of a PI greater than 1.0 was 93%. But the positive predictive value and false-positive rate for a PI less than 1.0 were quite poor (42% and 48%, respectively).[15] So it should not be a single method for management of adnexal mass in pregnancy. However, there was no record of color Doppler data in the present study in Rajavithi Hospital.

Preterm labor was the only adverse pregnancy outcome in the elective operation group. Several studies also reported such good pregnancy outcomes between emergency and elective operation groups.[1,3] Only Whitecar et al reported the significant poorer adverse perinatal outcomes of the pregnant women undergoing laparotomy for adnexal masses in pregnancy after 23 weeks compared with those undergoing laparotomy for adnexal mass before 23 weeks.[2]

In conclusion, the incidence of adnexal mass in pregnancy at Rajavithi Hospital was 1 in 686 deliveries. Mature cystic teratoma was the most common histopathologic diagnosis of cases. There were no significant difference between elective and emergency operation groups in every items. Preterm labor was the only adverse pregnancy outcomes in the elective operation group.

Acknowledgements

The authors wish to thank Dr. Sukawadee Kanchanawat, former Head of Department of Obstetrics and Gynecology, Rajavithi Hospital, for the permission to carry out this study and Dr. Manas Wongsuryrat, Head of Department of Obstetrics and Gynecology, Rajavithi Hospital for the permission to report this study.

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ก้อนที่ปีกมดลูกในสตรีตั้งครรภ์ที่ได้รับการผ่าตัดที่โรงพยาบาลราชวิถี: พ.ศ.2545 - 2548

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วัตถุประสงค์ *: เพื่อวิเคราะห์อุบัติการณ์ของสตรีตั้งครรภ์ที่ได้รับการผ่าตัดก้อนที่ปีกมดลูกในระหว่างตั้งครรภ์ในโรงพยาบาลราชวิถี พยาธิวิทยาของก้อนที่ปีกมดลูก และผลลัพธ์ที่เกิดขึ้นในมารดาเหล่านั้น*

วัสดุและวิธีการ *: การวิจัยเชิงพรรณนาแบบย้อนหลังข้อมูลของสตรีตั้งครรภ์ที่ได้รับการผ่าตัดเพื่อรักษาก้อนที่ปีกมดลูกในระหว่างตั้งครรภ์ที่กลุ่มงานสูตินรีเวชศาสตร์ โรงพยาบาลราชวิถี ตั้งแต่วันที่ 1 มกราคม พ.ศ. 2544 ถึง 31 ธันวาคม พ.ศ. 2548 โดยรวบรวมข้อมูลเกี่ยวกับอายุ จำนวนครั้งของการตั้งครรภ์และการคลอด อายุครรภ์ขณะผ่าตัดและคลอด พยาธิวิทยาของก้อนและผลลัพธ์ที่เกิดขึ้นในมารดาเหล่านั้น*

ผลการวิจัย *: สตรีตั้งครรภ์อยู่ในกลุ่มศึกษาจำนวน 66 รายที่เข้ารับการผ่าตัดก้อนที่ปีกมดลูกในระหว่างตั้งครรภ์จากจำนวนผู้คลอดทั้งหมด 45,333 ราย (อุบัติการณ์เท่ากับ 1:686 ของการคลอด) มีจำนวนผู้ป่วย 57 ราย ที่มีข้อมูลครบถ้วน ในการวิเคราะห์ข้อมูลพบว่าเป็นการผ่าตัดฉุกฉิน 14 ราย (ร้อยละ 24.57) เป็นการผ่าตัดแบบนัดมาผ่าตัด 43 ราย (ร้อยละ 75.43) พยาธิสภาพที่พบเป็นส่วนใหญ่ได้แก่ mature cystic teratoma (ร้อยละ 33.33), endometrioma (ร้อยละ 17.55) ผลพยาธิวิทยาเป็นมะเร็งรังไข่ 2 ราย (ร้อยละ 3.5) มี 1 รายเป็น serous cystadenocarcinoma stage Ia และอีก 1 รายที่เป็น borderline mucinous cystadenoma พบมีเพียง 1 ราย (ร้อยละ 1.75) ที่คลอดก่อนกำหนดในการผ่าตัดแบบนัดมาผ่าตัด ไม่มีความแตกต่างอย่างมีนัยสำคัญทางสถิติระหว่างกลุ่มที่ได้รับการผ่าตัดฉุกเฉินและกลุ่มที่ได้รับการนัดมาผ่าตัดในด้านพยาธิวิทยาของก้อนที่ปีกมดลูก ลักษณะทางประชากรและผลลัพธ์ที่เกิดขึ้นในมารดา เหล่านั้น*

สรุป *: อุบัติการณ์ของสตรีตั้งครรภ์ที่ได้รับการผ่าตัดก้อนที่ปีกมดลูกในระหว่างตั้งครรภ์ที่โรงพยาบาลราชวิถีเท่ากับ 1ใน684 ของการคลอด ผลพยาธิวิทยาเป็นมะเร็งรังไข่ร้อยละ 3.5 ไม่มีความแตกต่างอย่างมีนัยสำคัญทางสถิติระหว่างกลุ่มที่ได้รับการผ่าตัดฉุกเฉินและกลุ่มที่ได้รับการนัดมาผ่าตัดในด้านพยาธิวิทยาของก้อนที่ปีกมดลูก ลักษณะทางประชากรและผลลัพธ์ที่เกิดขึ้นในมารดา การผ่าตัดฉุกเฉินและการผ่าตัดแบบนัดมาผ่าตัดมีความแตกต่างในด้านผลกระทบที่เกิดต่อการตั้งครรภ์*