ORIGINAL ARTICLE

CLINICAL AUDIT OF FOETOMATERNAL OUTCOME IN PREGNANCIES WITH FIBROID UTERUS

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Background: Leiomyoma, myoma, leiomyoma or fibroids are synonymous terms. They may be present in as many as 1 in 5 women over age 35 years. If pregnancy is associated with fibroids, it leads to multiple complications. Objectives of this study were to evaluate the maternal and foetal outcome in women having pregnancy with fibroids in uterus and the complications associated with fibroids during the pregnancy. **Methods:** This descriptive study was conducted in the Department of Obstetrics and Gynaecology, Ayub Teaching Hospital Abbottabad from March 2009 to March 2010. Data were collected on performa regarding demographic variables, obstetrical history, mode of delivery, maternal outcome, maternal complications, and foetal outcome. Mean and standard deviation was calculated for age, period of gestation, and obstetrical history. Frequency and percentages was calculated for booking status, maternal outcome, maternal complications and foetal outcome. **Results:** Thirty patients were included in this study who had pregnancy with fibroid. Normal delivery was achieved in 14 (46.66%) patients. Eight (26.67%) patients had caesarean section and eight (26.67%) had miscarriages. Seven (23.33%) patients had no complications while 8 (26.67%) had miscarriages, 8 (26.67%) had postpartum haemorrhage, 10 (33.33%) had preterm delivery, and 3 patients had ante-partum haemorrhage. Two (10%) patients had premature rupture off membranes and 1 patient (3.33%) had pain abdomen and technical difficulty during caesarean section. There were 12 (40%) healthy babies. Five (16.67%) babies delivered with morbidity but recovered. There were 4 (13.33%) intrauterine deaths and one early neonatal death. **Conclusion:** Fibroid in pregnancy, especially multiple intramural fibroids and fibroids larger than 10 Cm, cause miscarriage and preterm labour.

Keywords: Leiomyoma, myoma, fibroid, maternal complication, foetal outcome

INTRODUCTION

Uterine fibroids are the most common benign tumours in women occurring in approximately 20–30% of women of reproductive age. They are therefore common in pregnancy. The true incidence of fibroids during pregnancy is unknown, but reported rates vary as low as 0.1% of all pregnancies to as high as 12.5%.[1]

Different complications occurring in pregnancy with fibroids included ante-partum haemorrhage, acute abdomen, laparotomy, preterm labour, dysfunctional labour, retained placenta, and retained products of conception. Although abortions, preterm delivery, dysfunctional labour and caesarean sections are common, the neonatal outcome in viable pregnancies is fairly good in women with uterine fibroids. Because of increased risk of complications, all the patients with fibroids having pregnancy should be considered as high-risk cases.[2]

The effect of uterine fibroids on fecundity and pregnancy outcome is difficult to determine with any degree of accuracy. This is due in large part, to lack of adequate knowledge about prevalence of fibroid in pregnancy and overestimates the complications attributed to them. In contrast to popular opinion, most fibroids do not exhibit a significant change in volume during pregnancy, although those that do increase in size tend to do so primarily in first trimester. Although most pregnancies are unaffected by the presence of fibroids, large submucosal and retroplacental fibroids seem to impart a greater risk for complications, including pain (degeneration), vaginal bleeding, placental abruption, intrauterine growth retardation (IUGR), and preterm labour.[3] Submucosal fibroid is one of the most recognised causes of infertility and habitual abortion. In one study, uterine peristaltic movements were partly interrupted by submucosal fibroids, but not by myometrial or subserosal fibroids. These findings are considered to represent dysfunctional contractility, and may be related with pregnancy loss.[4] Uterine fibroids 5 Cm or larger are independently associated with caesarean delivery performed before labour, and the risk increases with the size of the fibroid.[5]

The objective of this study was to evaluate the maternal and foetal outcome in women having pregnancy with fibroids in uterus and the frequency of complications associated with fibroids during the course of pregnancy.

MATERIAL AND METHODS

This study was conducted in Obstetrics and Gynaecology Units of Ayub Teaching Hospital, Abbottabad from March 2009 to March 2010. A total of 30 patients were included by non-probability purposive sampling. All pregnant women with fibroids diagnosed via clinical grounds and ultrasonography were included in this study. Pregnancies in which there was a planned

caesarean section for reasons other than the fibroid in uterus were excluded. Patients with ectopic pregnancy and diseases like uncontrolled diabetes, hypertension, cardiac diseases etc. were excluded in this study. All patients admitted through casualty, OPD or private clinics meeting the inclusion criteria were enrolled in the study. Approval of ethical committee was taken, and informed written consent was taken from all patients. A performa was designed and Demographic data and complete history were recorded. Clinical examination and baseline investigations were performed and ultrasonographic confirmation of fibroid, its position and size were measured and recorded in the performa. Patients' presenting complaints and the maternal and foetal outcome and the complications encountered were recorded with reference to the gestational age.

The data were analysed using SPSS-10. Mean±SD were calculated for age, gravidity, parity, and period of gestation. Frequencies and percentages were calculated for booking status, mode of delivery, maternal outcome, maternal complications, and foetal outcome.

RESULTS

Total number of patients, who were admitted during study period, was 3,000 out of which 30 patients fulfilled the inclusions criteria. Frequency distribution was calculated for age, period of gestation, booking status, obstetrical history, including gravidity, parity, and abortions, mode of delivery, and indication for caesarean section, maternal outcome, maternal complications and foetal outcome.

Six (20%) of patients were booked while 24 (80%) were not booked. The age ranged from 20 to 40 years with mean age 29.77±6.1 years. Maximum (30%) patients were falling in the age range of 21–25 years.

Primigavida were 7 (23.33%), multigravida 10 (33.33%), and grand multigravidas 14 (43.33%). Of these, 11 (36.67%) were nulliparous and 19 (63.33%) were multiparous. Frequency distribution and Mean±SD of different periods of gestation in which patients presented is shown in Table-1. Frequency distribution and Mean±SD of abortions in obstetrical history is shown in Table-2.

Of 30 patients 14 were delivered vaginally, 8 by caesarean section and 8 had miscarriage. Caesarean section was done for primary dysfunctional labour in 3 patients, malpresentation in 2 patients, failed progress in 2 patients and ante-partum haemorrhage in 1 patient. Twelve (40%) patients delivered at term, 10 (33.33%) delivered preterm and 8 (26.67%) had miscarriage. Frequency distribution of maternal outcome is shown in Table-3. Frequency distribution of maternal complication is shown in Table-4. Frequency distribution of foetal outcome is shown in Figure-5.

Table-1: Frequency for period of gestation (n=30)

Period of gestation	Cases	Percentage	Mean±SD
≤24 weeks	8	26.67	28.60±11.14
25–30 weeks	7	23.33	
31–36 weeks	3	10	
≥37 weeks	12	40	

Table-2: Frequency of Abortions in Obstetrical History (n=30)

No of abortions	Cases	Percentage	Mean±SD
0	20	66.67%	0.66±1.09
1–2	8	26.66%	
3–5	2	6.67%	

Table-3: Frequency of maternal outcome (n=30)

Outcome	Cases	%
Vaginal delivery at term	6	20
Vaginal delivery at preterm(cephalic)	7	23.33
Vaginal delivery at preterm (breech)	1	3.33
Caesarean section at term	6	20
Caesarean section at preterm	2	6.66
Miscarriages	8	26.67

Table-4: Frequency of Maternal Complications (n=30)

Complications	cases	%
Nil	7	23.33
Miscarriages	8	26.66
Pain Abdomen	1	3.33
Premature rupture of membranes	2	6.67
Postpartum Haemorrhage	8	26.67
Ante-partum haemorrhage	3	10
Technical difficulty during Caesarean section	1	3.33

Table-5: Frequency of Foetal Outcome (n=30)

Outcome	Cases	%
Healthy Baby	12	40
Early foetal loss	8	26.67
Intrauterine death	4	13.33
Early neonatal death	1	3.33
Baby with morbidity but recovers	5	16.67
Total	30	100

DISCUSSION

This study was conducted to evaluate the outcome of pregnancies complicated by leiomyomas. As the presence of leiomyomas increase the risks of adverse pregnancy outcome, thus emphasizing the importance of appropriate management of this high risk pregnancy.[6]

Thirty of our patients had leiomyomas, giving an incidence of 1%. The reported incidence of pregnancies complicated by leiomyomas is 0.1–4%, which compares with our study.[7] Mean maternal age came out to be 29 years, which is comparable to other studies, showing occurrence of leiomyomas in 3rd and 4th decade of life.[8] As far as the parity is concerned, 37% patients were nulliparous and 63% patients were multiparous. The association of fibroids with nulliparity has been reported but may occur in multiparous females with same frequency.[9,10] During pregnancy, uterine leiomyomas are usually

asymptomatic but may be occasionally complicated by red degeneration, an increased frequency of spontaneous abortion, preterm labour, premature rupture of membranes, ante-partum haemorrhage, malpresentation, obstructed labour, caesarean section and postpartum haemorrhage.[11–13] Twenty-three pregnancies in our study had complications, while 7 (23.33%) remained asymptomatic. Other studies have reported up to 70% pregnancies with fibroids have complications.[14]

Regarding obstetrical complications, 8 out of 30 patients (26.6%) had miscarriage. This study confirmed the findings of prior studies demonstrating that spontaneous pregnancy loss rates were higher in women with fibroids.[15] This also correlates well with the national study which shows an incidence of 22% for miscarriage due to fibroid.[8] The compressed endometrial vascular supply affects the foetus adversely resulting in abortion.[16]

One patient had severe pain abdomen (3.33%), managed by analgesics, bed rest and reassurance. The cause of pain was degeneration. Fibroid can undergo degenerative changes during pregnancy due to the effect of progesterone which inhibit the growth of myoma and induce degenerative changes.[15,17] The incidence of red degeneration has been reported to be 12%.[8]

In this study we also found an increased risk or preterm labour and preterm premature rupture of membranes. Only 12 out of 30 patients delivered at term, while 10 patients (33.33%) had preterm deliveries and 2 (6.67%) pregnancies were complicated by preterm premature rupture of membranes. Myoma may distort the shape of uterine cavity which may account for higher rates of preterm birth and malpresentations.[15,17,18] As pregnancy advances myometrium having fibroids are overstretched and this mechanism can initiate labour and thus result in increase rate of preterm births.[18,19]

Pregnant women with fibroid are at increased risk of placenta previa and malpresentation.[3,20] Our study also shows 6.67% patients with malpresentation where caesarean section was done. Increase risk of malpresentation due to fibroid in our study is same as shown in earlier studies.[8]

Regarding mode of delivery, 14 out of 22 patients (63.33%) achieved vaginal delivery while 8 patients (36.36%) underwent caesarean section, (8 patients already had miscarriage). A three-fold increased risk of caesarean section in our study compares well with previously conducted studies showing caesarean section rate of 39% in patients with fibroid compared to 17% for general population.[21] Indications for caesarean section were primary dysfunctional labour, failure to progress, malpresentation and antepartum haemorrhage. In our study, 8 patients (10%) had post partum haemorrhage. The risk of PPH in pregnancies complicated by fibroids has been reported as 14% in previous studies.[14,18,19]

In our study there was one patient (3.33%) where there was technical difficulty during caesarean section and caesarean hysterectomy was done. None of the patient underwent myomectomy. Removal of fibroid during pregnancy is usually reserved for women who have subserosal or pedunculated fibroid with pain that is unresponsive to rest, intravenous fluids NSAIDs and narcotic medication.[3] None of our patients had such problem. Caesarean myomectomy should be avoided unless the fibroid is in the line of incision.[10]

Complications like obstructed labour, adherent placenta, uterine inversion, IUGR, prolapsed of pedunculated fibroid through cervix, reported in previous studies were not observed in our study.[5,22,23]

As far as neonatal outcome is concerned, 12 (40%) patients delivered healthy babies. Proper management of such high risk pregnancies and timely referral to tertiary care units can lead to best maternal and neonatal outcome. There were 4 patients (13.33%) who had intrauterine death while one patient (3.33%) had an early neonatal death. All of these babies were preterm, with period of gestation less than 28 weeks. There were 5 patients (16.67%) in our study who delivered baby with morbidity but recovered. Critical analysis of these cases showed that it may not be directly due to the presence of fibroid. Three out of 5 babies passed meconium during 2nd stage of labour and had foetal distress which led to neonatal morbidity and admission to neonatal intensive care unit.

CONCLUSION

Common complications of uterine leiomyoma during pregnancy are miscarriage, preterm labour, postpartum haemorrhage and PPROM. Miscarriage was seen in pregnancy with multiple small intramural fibroids while preterm labour was seen in pregnancies with larger fibroids.

RECOMMENDATIONS

Patients having fibroid uterus should have treatment like myomectomy before planning pregnancy in order to have successful pregnancy.

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