PREGNANCY WITH FIBROIDS AND ITS OBSTETRIC COMPLICATIONS

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Background: Pregnancy along with a fibroid is a high risk pregnancy which may lead to complication with unequal gravity. Objective of this study was to assess the prevalence and obstetric complications of fibroids during pregnancy, this cross-sectional study was carried out in the Department of Gynaecology, Unit 'C', Ayub Teaching Hospital Abbottabad. **Method:** Data of all patients who presented with fibroid during pregnancy during two years, i.e., from Jan 2006 to Dec 2007 was recorded on a proforma and analysed using SPPS-12. **Results:** Thirty patients were diagnosed to have fibroids during pregnancy out of 3468 deliveries, thus prevalence was 0.865% in our hospital. The age of 50% cases was from 20 to 30 years, and 30 to 35 Year (27%). Twenty-one (70%) belonged to low socioeconomic status. Ninety percent patients reached up to term pregnancy between 37 to 40 weeks. Fibroids were found less common in patients in their first pregnancy (8, 23.66%). Twenty-one (70%) patients were delivered by caesarean section, and in 1 (3.33%) patient hysterotomy was performed. Failure to progress and foetal distress was the commonest indication for caesarean section (8, 38.09%) followed by breech presentation (4, 19.04%), cord prolapse (3, 14.28%) and fibroids in the lower segment (2, 9.52%). Anaemia was the commonest complication (20, 66.66%) followed by postpartum haemorrhage (PPH) (10, 33.33%). Breech presentation was the commonest malpresentation (4, 13.33%) associated with fibroids during pregnancy. Premature rupture of membranes and cord prolapse was seen in 3 (10%) patients each. Four (13.33%) patients underwent abdominal hysterectomy. Intra uterine growth restriction IUGR was seen in 2 patients (6.66%), 2 patients ended up with abortions, 1 patient had a spontaneous pregnancy loss and the other underwent hysterotomy due to low lying placenta and heavy bleeding per vaginum. Compound presentation, neglected transverse lie, stuck head of breech, placenta increta, retained placenta, low lying placenta, were the other complications occurring in one patient each. One patient died during anaesthesia. Neonatal outcome was encouraging as 20 (67%) babies were of average birth weight and only 4 (13.33%) babies had low APGAR score and needed NICU admission. Perinatal mortality was 37/1000 live births. **Conclusion:** Pregnancy with fibroids leads to increase in caesarean section rate due to dysfunctional labour and malpresentation. There is also increased incidence of post partum haemorrhage along with associated complication of anaemia, anaesthesia and surgery.

Keywords: Fibroid, leiomyoma, pregnancy

INTRODUCTION

Uterine fibroids (leiomyomas) are benign smooth muscle tumours of the uterus.[1] They are present in approximately 20–50% of women of reproductive age.[2] However pathological examination of removed uteri shows that the prevalence of uterine fibroid tumours may actually be as high as 80%.[3] Its prevalence during pregnancy has been reported to be 1–4%.[1–4] Uterine fibroids have long been implicated as a cause of adverse pregnancy events.[1] The potential effects of these tumours on pregnancy and the potential effects of pregnancy on the tumours are a frequent clinical concern since fibroids are commonly detected in women of reproductive age.[5] Their presence has been linked to spontaneous abortion, premature labour, soft tissue dystocia, uterine inertia, foeto-pelvic disproportion, malposition of the foetus, retention of the placenta, postpartum haemorrhage, pain, degeneration, placental abruption, Intra uterine growth restriction (IUGR).[6–8] However there are no well-designed studies that provide adequate data on fibroids and pregnancy outcome.

This cross-sectional study was carried out to determine the prevalence of fibroids during pregnancy and associated complications during pregnancy, delivery and the puerperium (antenatal, intrapartum and postnatal period).

MATERIAL AND METHODS

This study was carried out in Department of Gynaecology, Unit 'C' Ayub Teaching Hospital, Abbottabad over period of 2 years from Jan 2006 to Dec 2007. All patients who presented in the labour ward with a documented fibroid or were diagnosed during Caesarean Section were included in the study. Demographic variables, pregnancy, labour complications, mode of delivery, morbidity and mortality associated with the management of pregnancy with fibroids were recorded on a Performa.

Characteristic abstracted were age, parity, gestational age at delivery, mode of delivery, and complications associated with pregnancy with fibroid and its management. Patients with fibroid uterus without pregnancy were excluded from the study.

RESULTS

During this time period total numbers of deliveries were 3468 and out of these, 30 patients were diagnosed to have fibroids, thus prevalence was 0.865%.

Table-1 shows the demographic variables of age and socioeconomic status. Majority of patients were in the reproductive age range of 20–30 years (50%) and 30–35 years (27%), and belonged to low socioeconomic status (70%).

Table-2 shows the obstetrical profile of the patients. Majority (90%) of patients who presented with leiomyomas during pregnancy reached up to term pregnancy between 37–40 weeks. Out of 30 patients 13 (43.33%) were either multigravidae (MG) or Grand multigravidae (GMG) 9 (30%). It was found to be less common in primegravidae (8, 23.66%).

Table-3 shows the mode of delivery. A total of 73.3% patients were delivered through the abdominal route (70% by Caesarean Section and 3.33% by hysterotomy). Normal vaginal delivery was possible in 5 (16.66%) patients while instrumental delivery, craniotomy for stuck head of breech, and E & C for an abortion were performed in one patient each (3.33%).

Table-4 shows the complications of pregnancy with fibroid. Anaemia was the commonest complication occurring in 20 (66.66%) patients followed by postpartum haemorrhage in 10 (33.33%). Breech presentation was the commonest malpresentation (4, 13.33%) associated with fibroids during pregnancy. Premature rupture of membranes and cord prolapse was seen in 3 (10%) patients.

Patients requiring abdominal hysterectomy due to uncontrolled PPH were 4 (13.33%). Two patients had caesarean hysterectomy due to big pedunculated fibroid occupying whole of the cervical canal and vagina. One patient had placenta increta along with multiple fibroids, thus had to undergo hysterectomy to control bleeding.

One patient who presented in emergency with stuck head of breech had a big 8×8 cm fibroid in the lower segment died during anaesthesia. She was a known case of uncontrolled diabetes and hypertension since fiver years with no previous antenatal check up. She had massive postpartum haemorrhage. Subtotal abdominal hysterectomy was performed but during surgery she had cardiac arrest.

Table-5 shows the indications for Caesarean Section. Total 21 (70%) Caesarean Sections were performed in patients with fibroid.

Failure to progress and foetal distress was the commonest indication for caesarean section (8, 38.09%) followed by malpresentation breech (4, 19.04%), neglected transverse lie (1, 4.76%), compound presentation (1, 4.76%). Cord prolapse along with premature rupture of membranes occurred in 3 (14.28%) patients. Two (9.52%) patients had elective lower segment caesarean section due to big fibroids in the lower segment. One patient had a big pedunculated fibroid about the size of foetal head arising from the cervical region and was present in the vagina. It was mistaken for foetal head by an LHV and she was given oxytocin injudiciously. (Figure-1). Low lying placenta and obstructed labour were the other indications in one patient each.

Figure-1: Baby, uterus, and fibroid

Table-6 shows the neonatal outcome. Twenty (67%) babies were of average birth weight while 3 (10%) were macrocosmic and 5 (16.66%) were of low birth weight. Two (6.33%) patients had abortion; one had spontaneous abortion while the other had to undergo hysterotomy at 21 weeks of pregnancy due to intractable bleeding because of low lying placenta.

Only 4 (13.33%) babies were delivered with low APGAR score who needed NICU admission. Perinatal mortality was 37/1000 live births.

Table-1: Demographic variables of the patients

Variable	Number	%
Age (Yrs)		
20–30	15	50
31–35	8	27
36–40	6	20
41 and above	1	3.33
Socioeconomic Status		
Low	21	70
Middle	4	13.33
High	5	16.66

Table-2: Mode of delivery

Mode	Number	%
N.V.D	5	16.66
Outlet Forceps	1	3.33
Caesarean Section	21	70
Stuck Head of Breech + Craniotomy	1	3.33
Hysterotomy	1	3.33
E & C	1	3.33

Table-3: Obstetrical profile of patients

	Number	%
Gestational Age		
14 Weeks	1	3.33
21 Weeks	1	3.33
37–40 weeks	27	90.0
43 weeks	1	3.33
Parity		
Primigravida	8	23.66
Multigravida	13	43.33
Grand Multigravida	9	30

Table-4: Complications

Complications	Number	%
Anaemia	20	66.66
PPH	10	33.33
Cord Prolapse	3	10
Abortions	2	6.66
Compound Presentation	1	3.33
Breech	4	13.33
Placental Abruption	1	3.33
Retained Placenta	1	3.33
Low Lying Placenta	1	3.33
Subtotal Abdominal Hysterectomy	4	13.33
Maternal Death	1	3.33
PROM	3	10
IUGR	2	6.66

Table-5: Indications for Caesarean Section

Indications	Number	%
Failure to progress + Foetal Distress	8	38.09
Cord Prolapse + PROM	3	14.28
PROM + Compound Presentation	1	4.76
Fibroid in lower Segment	2	9.52
Neglected transverse Lie	1	4.76
Breech	4	19.04
Low lying Placenta + Multiple fibroids (Hysterectomy)	1	4.76
Obstructed labour	1	4.76

Table-6: Neonatal Outcome

	Number	%
Low Birth Weight	5	16.66
Average	20	67
Macrosmic	3	10
Abortion	2	6.33
Fresh Still Birth	1	3.33
Low APGAR Score	4	13.33
Neonatal Deaths	0	0

DISCUSSION

Majority of patients who are delivered in Ayub Medical Hospital come as emergency cases with no regular antenatal or routine ultrasound check up in 1st and 2nd trimester. Therefore exact prevalence of fibroids during pregnancy cannot be calculated by this small number of patients who has ultrasound report and who were diagnosed having a fibroids during caesarean section. 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 the lack of adequate large clinical trials.[1]

Pregnancy along with a fibroid is a high risk pregnancy, which may lead to complications with unequal gravity although it is the commonest tumour of the reproductive age group, but adequate evidence on fibroids and pregnancy outcome is lacking as the available information consists largely of observational case series and case report that are limited by different patient population. The potential effects of these tumours on pregnancy and that of pregnancy on the tumours are frequent clinical concern since fibroids are commonly detected in women of reproductive age.[5]

Uterine fibroids have long been implicated as a cause of adverse pregnancy events.[1] We found prevalence of fibroids associated with pregnancy to be 0.865% which is almost equal to that reported nationally and internationally.[5,7,9,10] This low figure suggests that majority of myomas are asymptomatic even in pregnancy and hence escape detection.[11]

Exact prevalence cannot be obtained from this small number of patients as majority of patient lack antenatal care and mostly have no ultrasound reports. Sonography is helpful in evaluating the size, number position, location, and relationship to placenta and echogenic structure of fibroids.[4] We found that fibroids were less frequent in women in their first pregnancy compared to multigravida and grand multigravida. This is in contrast to the study by Kokab *et al* who reported fibroids to be more frequent (52.25%) in patients presenting in their first pregnancy.[9] In our study pregnancy with fibroids was frequently found in MG and GMG which is not consistent with other studies.

Generally, fibroids are associated with multiparity and infertility. The relative risk of fibroids decreases with each additional term pregnancy, the risk is reduced to one fifth with five term pregnancies compared with nulliparous women.[12]

Majority of our patients presented at a younger age between 20–30 years (50%). This is similar to the findings in black women in whom there is nine-fold increase incidence of fibroids. Women with uterine fibroids have had fewer term pregnancies and are generally of lower parity than their contemporaries without this problem.[13]

Mechanical difficulties due to site of the fibroids may be encountered during labour and fibroids may be associated with malpresentation of the foetus.[13] If caesarean section is required, it is unwise to attempt myomectomy because of the associated vasculatily of the procedure. Caesarean hysterectomy may be considered if there are multiple fibroids and the women has completed her family but the operative morbidity is greatly increased and this procedure would in general be reserved for emergency situation. The rate of caesarean section was 70% in this study which is very high as compared to other studies which report an incidence of 38–72.7%.[5,9,14–16] This high caesarean section rate is attributed to lack of antenatal care, no education, and poverty in this area. In the study by Walker *et al*[16],

72:7% patients delivered by caesarean section amongst which indication of 9 patients was fibroids, while in our study caesarean section rate was 70% out of which indication for 4 patient was fibroids alone.

Majority of patients prefer to have a home delivery and only those patients are brought to hospital in which some complications have arisen. Majority of caesarean sections were preformed for failure to progress and foetal distress (38.09%), and malpresentation (Breech 19.04%, neglected transverse lie: 4.76%, Cord Prolapse: 14.28%). Coronado *et al* reported high incidence of malpresentation, especially breech presentation.[17]

Incidence of Postpartum haemorrhage was high in our study as is reported in other studies.[1] Four patients (13.33%) underwent subtotal abdominal hysterectomy due to massive post partum haemorrhage. Two patients had big pedunculated fibroids about the size of foetal head occupying whole of the cervical canal and vagina mimicking foetal head. Uterine artery ligation appears to be a promising method in reducing blood loss during caesarean section in patient with leiomyomas who want to conserve their fertility.[18] It has been reported that fibroids in the myometrium may decrease the force of uterine contractions or disrupt the coordinated spread of contractile wave thereby leading to dysfunctional labour.[1]

Neonatal outcome was encouraging as perinatal mortality was 37/1,000 live births, thus indicating that fibroids do not impair foetal growth. This is in contrast to the study by Bromberg *et al* in which there was high neonatal NICU admission in patients with fibroids.[2] Women who have fibroids detected in pregnancy may require additional foetal surveillance when the placenta is implanted over or in close proximity to a fibroid.[19] Although most of the studies have reported an increase in incidence of spontaneous pregnancy loss in patients with fibroids.[9,15] This association is strong if there are multiple fibroids or the implantation has occurred in relation to a sub mucous fibroid.[12,15]

CONCLUSION

Fibroids during pregnancy lead to increase in rate of Caesarean Section due to high incidence of dysfunctional labour and malpresentation. They are also associated with increased risk of postpartum haemorrhage, thus the obstetrician dealing with such patients should be experienced to deal with any untoward events during management.

REFERENCES

1. Quyang DW. Norvitz ER. Management of Pregnant Women with lieomyomas. Available at: http://www.uptodate.com/ patients/content/topic.do?topicKey=~eWppcY0Kn3sfR0e.com
2. Bromberg JV, Goldberg J, Rychlak K, Weinstein L. The effects of uterine fibroid on pregnancy outcomes. Available at: http://orwh.od.nih.gov/ health/39-Bromberg.pdf.
3. Umezurike C, Feyi-Waboso P. Successful myomectomy during pregnancy : a case report. Reprod health 2005;2(1):6. Published online 2005 August 16. doi 10.1186/1742-4755-2-6.
4. Cornforth T. 10 things to know about uterine fibroid tumours. Available at: http://womenshealth.about.com/od/ fibroidtumors/ a/knowabtfibroids.htm
5. Qidwai GI, Caughey AB, Jacoby AF. Obstetric outcome in women with somographically identified uterine leiomyomata obstetric Obstet Gynecol. 2006 Feb;107(2 Pt 1):376–82.
6. Quyang DW: Economy KE. Norwitz ER. Obstetric complications of fibroids. Obstet Gynaecol Clin North Am 2006;33(1):153–69
7. Mason TC. Red Degeneration of a leiomyoma masquerading as retained products of conception. J Natl Med Assoc 2002;94(2):124–6.
8. Andrew J. Freidman leiomyomate uteri. In: Edward J. Quilligan, Frederick P. Zuspan. Current therapy in obstetrics and gynaecology. 5th ed. Philadelphia: 1LB. Saunders Company; 1999.p. 97–107.
9. Kokab H, Elahi N, Shaheen T. Pregnancy associated with fibroids. Complications and pregnancy outcome. J Col Physicians Surg Pak 2002;12:731–4.
10. Exacoustos C, Rosati P. Ultrasound diagnosis of uterine myomas and complications in pregnancy. Obstet Gynecol 1993;82:97–101.
11. Muram D, Gillieson M, Walters JH. Myomas of uterus in pregnancy, ultrasonographic follow up. Am J Obstet Gynecol 1980;138:16-19.
12. Vollenhoven BJ, Lawrence AS, Healy DL. Uterine fibroids: A Clinical Review. Br J Obstet Gynaecol 1990;97:285–98.
13. West GP. Uterine fibroids. In: Robert W, Shaw W, Patrick Soutter, Stuart L. Stanton. Gynaecology. Second ed. United States: Churchill Livingstone (NJ/IL);2003.p. 441–56.
14. Youssef A, Ben Aissia N, Gara MF. Association fibromyoma and pregnancy. About 23 cases. Tunis Med. 2005;83(4):194–7.
15. Benson C, Chow J, Chang-Lee W, Hill J, Doubilet P. Outcome of pregnancies in women with uterine leiomyomas identified by sonography in the first trimester. J clin Ultrasound 2001;29(5):261–4.
16. Walker WJ, McDowell SJ. Pregnancy after uterine artery embolization for leiomyomata. a series of 56 completed pregnancies. Am J Obstet Gynecol 2006;195:1266–71.
17. Coronado GD, Marshall LM, Schwartz SM. Complications in pregnancy, labor and delivery with uterine leiomyomas. A population based study. Obstet Gynecol 2000;95:764–9
18. Liu WM, Wang PH, Tang WL, Wang IT, Tzeng CR. Uterine ligation for treatment of pregnant women with uterine leiomyomas who are undergoing caesarean section. Fertil Steril. 2006;86:423–8.
19. Lefebvre G, Vilos G, Allaire C, Jeffrey J, Arneja J, Birch C, Fortier M, *et al*. The management of uterine leiomyomas. J Obstet Gynaecol Can 2003;25:396–418.

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