

Original Research Article

Pregnancy with Fibroids and Its Obstetric Complications

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Abstract: Women with uterine fibroids are more likely have pregnancies complicated by fetal malpresentation, preterm birth, and preterm premature rupture of membranes (PPROM), placenta previa, placental abruption, cesarean delivery, and severe postpartum hemorrhage. Objective of this study was to assess the prevalence and obstetric complications of fibroids during pregnancy. This cross-sectional study was carried out in Department of Obstetrics & Gynecology, Sri Aurobindo Medical College & Post Graduate Institute Hospital, Indore (M.P). Data of all patients who presented with fibroid during pregnancy during one years i.e., from Sept 2015 to Sept 2016 was recorded on a proforma. Thirty-two patients were diagnosed to have fibroids during pregnancy out of 2400 deliveries, thus prevalence was 1.33% in our hospital. Fibroids were found less common in patients in their first pregnancy (8, 25%). Twenty-three (71.87%) patients were delivered by caesarean section, and in one (3.12%) patient hysterectomy was performed. Failure to progress and fetal distress was the commonest indication for caesarean section (10, 43.47%) followed by breech presentation (4, 17.39%), cord prolapse (1, 3.12%) and fibroids in the lower segment (3, 13.04%). Anemia was the commonest complication (12, 40.62%) followed by postpartum haemorrhage (PPH) (7, 21.87%). Premature rupture of membranes and cord prolapse was seen in 1(3.12%) patients each. Two (6.25%) patients underwent abdominal hysterectomy. Intra uterine growth restriction IUGR was seen in 1 patient (3.12%), 2 patients ended up with abortions, 1 patient had a spontaneous pregnancy loss and the other underwent hysterectomy due to low lying placenta and heavy bleeding per vaginum. Compound presentation, neglected transverse lie, assisted vaginal breech delivery, placenta increta, retained placenta, low lying placenta, were the other complications occurring in one patient each. Neonatal outcome was encouraging as 19 (59.37%) babies were of average birth weight and only 2 (6.25%) babies had low APGAR score and needed NICU admission. Perinatal mortality was 37/1000 live births. Fibroids during pregnancy are known to adversely affect its outcome. There is an increased risk of abortion or miscarriage, preterm labour, abnormal presentation, accidental hemorrhage, dystocic labour, post-partum haemorrhage (PPH), puerperal sepsis and uterine inversion. Fibroids situated in the body of the uterus usually become displaced upwards. Pregnancy with fibroids leads to increase in caesarean section rate due to dysfunctional labour and malpresentation.

Keywords: Fibroid, leiomyoma, pregnancy

INTRODUCTION

Uterine fibroids (leiomyomas) are benign, monoclonal tumors of the smooth muscle cells of the myometrium and contain large aggregation of extracellular matrix composed of collagen; elastin, fibronectin and proteoglycan [1]. Fibroids are remarkably common. The prevalence of fibroid among pregnant women is 18% in African women, 8% in white women and 10% in Hispanic women, based on first trimester in pregnancy [2]. Most fibroids do not increase in size during pregnancy. Pregnancy has a variable and unpredictable effect on fibroid growth and likely dependent on fibroid gene expression, circulating growth factors and fibroid localized receptors [3].

Uterine fibroids have long been implicated as a cause of adverse pregnancy events [4]. 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. Uterine fibroids are associated with an increased rate of spontaneous miscarriages, premature labour, uterine inertia, foeto-pelvic disproportion, malpresentation, retention of the placenta, postpartum haemorrhage, placental abruption, Intra uterine growth restriction (IUGR), labour dystopia and caesarean section [5]. This aim of this study is to determine the prevalence of fibroids during pregnancy and its associated complications

MATERIAL AND METHODS

This cross sectional study was carried out in Department of Obstetrics & Gynecology, Sri Aurobindo Institute Of Medical Science & Post Graduate Institute Hospital, Indore (M.P) over period of 1 year from Sept 2015 to 31st Aug 2016. The inclusion criteria were all patients who presented in the labour room (during emergency) with a documented fibroid or were diagnosed during Caesarean Section or were already booked case of pregnancy with fibroid. Patients with fibroid uterus without pregnancy were excluded from 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 proforma. Characteristic abstracted were age, parity, gestational age at delivery, mode of delivery, and complications associated with pregnancy with fibroid and its management. Data was entered in Microsoft excel and presented as number and percentages for discrete variables.

RESULTS

The total numbers of deliveries during this period was 2400 and out of these, 32 patients were diagnosed to have fibroids, thus prevalence was 1.33%. Table-1 shows the demographic variables of age and socioeconomic status. Majority of patients were in the reproductive age range of 20–30 years (45%) and 30–35 years (28.12%), and belonged to low socioeconomic status (68.75%). Table-2 shows the mode of delivery. A total of 74.99% patients were delivered through the abdominal route (71.87% by Caesarean Section and 3.12% by hysterectomy). Normal vaginal delivery was possible in 5 (15.66%) patients while instrumental delivery, assisted breech delivery, and suction evacuation were performed in one patient each (3.12%).

Table-3 shows the obstetrical profile of the patients. Majority (90.62%) of patients who presented with leiomyomas during pregnancy reached up to term pregnancy between 37–40 weeks. Out of 32 patients 8 (25%) were primigravida and 14 (43.75%) were either multigravid ae (MG) or Grand multigravidae (GMG) 10 (31.25%). Table-4 shows the complications of pregnancy with fibroid. Anaemia was the commonest complication occurring in 12 (40.62%) patients followed by postpartum haemorrhage in 7 (21.87%). Malpresentation found in 2(6.25%) associated with fibroids during pregnancy. Premature rupture of membranes and cord prolapse was seen in 1 (3.12%) patients. Patients requiring abdominal hysterectomy due to uncontrolled PPH were 2 (6.25%).

Table-5 shows the indications for Caesarean Section. Total 23 (71.87%) Caesarean Sections were performed in patients with fibroid. Failure to progress and fetal distress was the commonest indication for caesarean section 10(43.47%) followed by malpresentation breech 4(17.39%), neglected transverse lie (1, 1.09%), compound presentation (1, 1.09%). Cord prolapse along with premature rupture of membranes occurred in 2 (8.69%) patients. 3 (13.04%) patients had elective lower segment caesarean section due to big fibroids in the lower segment. Low lying placenta and obstructed labour were the other indications in one patient each. Table-6 shows the neonatal outcome. Nineteen (59.37%) babies were of average birth weight while 3 (9.37%) were macrocosmic and 2 (6.25%) were of low birth weight. Two (6.25%) 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 2 (6.25%) babies were delivered with low APGAR score who needed NICU admission.

Table 1: Demographic variables of the patients

Variable	Number	Percentage
Age		
20-30yrs	16	50%
31-35yrs	9	28.12%
36-40yrs	6	18.75%
41 and above	1	3.12%
Socioeconomic status		
Low	22	68.75%
Middle	4	12.5%
High	6	18.75%

Table 2: Mode of Delivery

Mode	Number	Percentage
Normal vaginal delivery	5	15.6%
Outlet forceps	1	3.12%
Caesarean section	23	71.87%
Assisted Breech delivery	1	3.12%
Hysterotomy	1	3.12%
Suction and curettage	1	3.12%

Table 3: Obstetrical Profile of Patients

	Number	Percentage
Gestational Age		
12-14 wks	1	3.12%
21-23wks	1	3.12%
37-40wks	29	90.62%
42 wks	1	3.12%
Parity		
Primigravida	8	25%
Multigravida	14	43.75%
Grand multigravida	10	31.25%

Table 4: High Risk Associated With Pregnancy

Complications	Number	Percentage
Abortions	1	3.12%
Anemia	12	40.62%
Compound presentation	1	3.12%
Breech	4	3.12%
Low lying placenta	1	3.12%
IUGR	3	3.12%
Cord prolapse	1	3.12%
PROM	2	3.12%
Placental Abruption	2	3.12%
PPH	7	21.87%
Retained placenta	1	3.12%
Subtotal abdominal hysterectomy	2	6.25%
Maternal death	Nil	-

Table 5: Indications for Caesarean section

Indications	Number	Percentage
Breech	4	17.39%
Fibroid in lower segment	3	13.04%
Failure to progress with fetal distress	10	43.47%
PROM with compound presentation	1	4.34%
Cord prolapse with PROM	2	8.69%
Obstructed labour	1	4.34%
Low lying placenta with multiple fibroids	1	4.34%
Neglected transverse lie	1	4.34%

Table 6: Neonatal Outcome

	Number	Percentage
Abortion	2	6.25%
Low birth weight	4	12.5%
Average	19	59.37%
Macrosomic	4	9.37%
Low APGAR Score	2	6.25%
Fresh still born	1	3.12%
Neonatal death	1	3.12%

DISCUSSION

Fibroids (leiomyoma, myoma) are an important health care concern because they are the most

frequent indication for the performance of hysterectomy, accounting of nearly 2, 40, 000 such procedures in the United States [6].

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 [7].

Majority of patients who are delivered in SAMS & PGI 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 was diagnosed having fibroids during caesarean section. 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. 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 [8].

Uterine fibroids have long been implicated as a cause of adverse pregnancy events. We found prevalence of fibroids associated with pregnancy to be 1.33% which is almost equal to that reported nationally and internationally [10]. This low figure suggests that majority of myomas are asymptomatic even in pregnancy and hence escape detection [11].

Ultrasonography is helpful in evaluating the size, number position, location, and relationship to placenta and echogenic structure of fibroids. 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 [12]. In our study; pregnancy with fibroids were frequently observed in multigravida pregnancy which is in contrast to 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 [13].

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 [14]. Mechanical difficulties due to site of the fibroids may be encountered during labour and fibroids may be associated with malpresentation of the foetus [15]. Fibroids situated in the body of the uterus usually become displaced upwards as labour

progresses, on other hand fibroids situated in the lower part of the uterine body causes obstruction.

If caesarean section is required, it is unwise to attempt myomectomy because of the associated vascularity 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% [16-18]. 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.*; 72.7% patients delivered by caesarean section amongst which indication of 9 patients were fibroids [18], while in our study caesarean section rate was 70% out of which indication for 4 patients was fibroids alone. Majority of caesarean sections were performed 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. Four patients (13.33%) underwent subtotal abdominal hysterectomy due to massive postpartum 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 [19]. 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 [7]. Neonatal outcome was encouraging as perinatal mortality was 37/1,000 live births, thus indicating that fibroids do not impair foetal growth. However Bromberg *et al.*; [20] reported that there was high neonatal NICU admission in patients with fibroids. 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.

CONCLUSION

Fibroids during pregnancy are sometimes known to adversely affect its outcome. There is an increased risk of abortion or miscarriage, preterm labour, abnormal presentation, accidental haemorrhage, distocic labour, post-partum haemorrhage (PPH), puerperal sepsis and uterine inversion. The obstetricians dealing with such patients should be experienced to deal with untoward events during management. There should be preconception and prenatal counseling of women with leiomyomata

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