ORIGINAL ARTICLE

EFFECTS OF FIBROID ON PREGNANCY AND MODE OF DELIVERY

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ABSTRACT

Objective: To find the age wise prevalence in our patients and its effect on pregnancy in terms of fetal and maternal complication and also its effect on mode of delivery.

Material & Methods: Prospective observational study conducted in Department of Obstetrics and Gynaecology, Mardan Medical Complex from March 2015 to March 2016. Data were recorded on proforma. Frequency and percentages were calculated for booking status parity, age and mode of delivery.

Results: Fifty-five patients out of 7109 (0.77% prevalence) obstetric admissions were included in the study. 48(87.27%) patients were booked while 7 (12.73%) patients were not booked. Fourteen (25.45%) patients had vaginal delivery, 31 (56.36%) patients had Ceaserian Section (C/S) 12 patients had emergency Ceaserian Section (C/S) and 19 patients had elective Ceaserian Section (C/S), 2 babies delivered by delee's incision an done by classical incision. Primary dysfunctional labour (8,14.57%) and secondary arrest (4,7.27%) and on fetal distress (8,14.5%) were the commonest indications for emergency cs. conception following a long period of sub fertility i.e, > 5 years (9,16.3%) and elderly primi gravid were the commonest indications of elective cs. 10(18.8%) patients had miscarriage. Fibroids were more common in first and second pregnancy. Only 6 (10.9%) were grand multigravida. Patient's age ranged from 24 to 40 years and median age was 30 years. 30(54.54%) patients remained asymptomatic. 12 (21.81%) had bleeding in early pregnancy out of which 10 resulted in loss of pregnancy. 3(5.4%) patients had malpresentation. 3(5.4%) patients had pre term pre mature rupture of membranes. 6(10.9%) patients had technical difficulty during cesarean section. 8 (14.5%) patients had pain throughout pregnancy. 3 (5.4%) patients had primary post Partum Haemorrhage (PPH). Maternal mortality was nil. Three babies had intra uterine growth retardation. There was one in utero death and 2 early neonatal deaths.

Conclusion: Fibroids in pregnancy increase cesarean section rate due to delayed conception, primary dysfunctional labour, secondary arrest of labour and fetal distress. Size of fibroids generally increase in pregnancy. It is high risk pregnancy needs vigilant monitoring but usually the outcome is good. Anticipation and management of technical difficulties during cesarean section should be pre planned.

Key Words: Fibroid, leiomyoma, pregnancy, complications.

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INTRODUCTION

Fibroids are smooth muscle tumours of the uterus. They are extremely common with overall incidence of 40 to 60% by the age 35yrs increasing to 80% by the age 50 years.[1] Fibroids are diagnosed either by physical examination or ultrasound but in pregnancy only about 12.5-42% of fibroids can be diagnosed on physical examination[2]. Diagnosis by ultrasound is limited because of increased physiologic thickening of myometrium. Therefore prevalence of fibroids in pregnancy is underestimated and it is reported to be 0.1% to 3.9%[3]. Fibroid is a common cause of subfertility, 12-25% of couples seeking treatment for infertility have fibroids[4]. Due to growing trend of delayed childbearing (more and more pregnancies complicated by fibroids in older women) more studies are needed to assess relationship between fibroids and adverse pregnancy outcome. This longitudinal study was done to determine the prevalence of fibroid during pregnancy, its association with age and parity and its effects on pregnancy, delivery and puerperium.

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MATERIAL AND METHODS

This prospective study was carried out at department of obstetrics and Gynae A Unit, Mardan Medical Complex from March 2015 to February 2016. The study was approved by hospital ethical committee. All patients coming to outdoor antenatal clinic having fibroid along with pregnancy were included in this study. Period of gestation was calculated from last menstrual period, from CRL on first trimester scan and in some cases from urine for pregnancy test. Serial ultrasound scans were done at recommended intervals according to NICE guidelines i.e, at 12, 20, 24, 28, 32 and 36 weeks of gestation. Location of fibroid in uterus and various diameters were measured at each visit. Standard definitions were used for subserous, intramyometrial and submucous fibroids. Localisation of fibroid was also noted as top fundal anterior wall, posterior wall and lower segment referring to all the three anatomical planes sagital, coronal and transverse. Number of lesions and associated complications if any were noted.

Patients data was recorded on a proforma including complications arising in antenatal, intranatal and postnatal period. Mode of delivery and indications for cesarean section were also noted. Partographs were established for laboring patients. The data were analyzed using SPSS-16.

RESULTS

Total 55 patients were included in the study out of 7109 total obstetric admissions, the prevalence being 0.77%. 48 (87.27%) patients were booked while 7(12.72%) patients were not booked. The age ranged from 25 to 40 years with median age of 30 years. Majority of the patients were in the age range from 25-35 years. Majority of patients 45 (81.81%) reached to term pregnancy between 37 to 40 weeks. 26 (47.27%) patients were primigravida, 23 (41.8%) were multigravida and 6 (10.9%) patients were grand multigravida. It was more common in primigravida at age 30 and above. As shown in Table 1.

Table 1: Age and parity of the patients

Age in year	No. of patients & percentage
<25	10(18%)
26-35	39(71%)
>35	6(11%)
Parity	
Primigravida	26(47.27%)
G_{2-4}	23(41.8%)
G_5 ->	6(10.9%)

Table 2: Mode of delivery

Mode of delivery	No. of patients & percentage
Normal vaginal delivery	8(14.54%)
Assisted vaginal delivery	6(10.90%)
Emergancy cesarean section	12(21.81%)
Elective cesarean section	19(34.54%)
Miscarriage	10(18.18%)

Table 3: Maternal complications during pregnancy

Complications	No. of patients & percentage
Miscarriages	12(21.8%)
Primary dysfunctional labour	8(14.54%)
Secondary arrest of labour	4(7.27%)
Pain during pregnancy	8(14.5%)
Malpresentations	3(5.4%)
PPROM	3(5.4%)
Ante partum haemorrhage	3(5.4%)
Post partum haemorrhage	6(10.9%)
Technical difficulty in cesarean section	6(10.9%)
Classical cesarean section	3(5.4%)
Infected fibroid	2(3.63%)

Table 4: Fetal Complications

Complications	No. of patients & percentage
Fetal distress	8 (14.5%)
Early fetal loss	10(18.8%)
IUGR	3(3.6%)
Intra uterine fetal death	1(1.8%)
Early Neonatal Death	2(3.6%)

Out of 55 patients 14(25.45%) delivered vaginally Table 2. Labour was protracted in the presence of fibroid. It was primary dysfunctional in 8 (14.54%) patients and four patients (7.27%) had secondary arrest of labour. Fibroids impinging on the cavity of uterus from side to side also created a sort of physical obstruction to progress of labour. Eight Babies (14.5%) had fetal distress All others recovered except 3. One of the baby died during c section as uterus had multiple fibroids, baby had fetal distress, intra uterine growth retardation and severe oligohydramnios, it was reached with great difficulty even in classical cesarean section. Two other babies were severely depressed at birth, in one labour was protracted and cord was compressed besides

head. In 19(34.54%) cases elective cesarean section was done, indications being elderly patient conceiving after a long period of subfertilty and location of fibroid in the line of descent below the presenting part. One patients had classical cesarean section,two patients had Delee's incision. In 6 patients myomectomy was done during cs as in 4 patients some of the fibroids were pedunculated which were excised and in 2 patients one or two fibroids coming in the line of lower segment incision were removed safely. In two cases fibroids were septic. Both were handled by a local mid wife. One was sub mucous 15x18 cms in size and was injured by her with instruments used for evacuation of uterus after fetal expulsion. In the second she used misopristal for augmentation of pains after rupture of membranes resulting in splitting of myometrium overlying the fibroid. In both cases myomectomy was done successfully in emergency. In two patients cervical fibroid polyps (bleeding) were successfully excised during pregnancy. In all these patients post op course was eventless.

DISCUSSION

This study was done to find the effects of fibroid on pregnancy and labour in terms of fetal and maternal complications. In this study prevalence of fibroid was 0.77% (55/7109) which is in accordance with the general prevalence in other studies i.e, 0.1 to 3.9%[3]. Prevalence depends on quality of ultrasound, age and race of the patient. Racial difference shows its genetic predisposition i.e, 2 to 9 fold higher in afro-caribbeans[6]. According to a recent study prevalence of fibroids is 18% in afro-americans, 8% in white women and 4% in hispanics[7]. Low prevalence in this study is because majority of the cases are asymptomatic and escape detection and still most of our patients do not have proper antenatal monitoring. In this study 47.27% were nulligravida, 41.8% were multigravida mostly second gravid and 10.9% were grand multigravida.16.36% of patients conceived after a prolonged period of subfertility which confirms the association of fibroids with higher age and delayed conception[8].

Complication rate increase when fibroid is associated with pregnancy. About 10-40% of such pregnancies are symptomatic because of one or other complication[9].High miscarriage rate of 21.8% confirm the causative role of fibroid in miscarriage. This is in accordance with other studies[4,10]. Fibroids which distort the endometrial cavity cause recurrent mid trimester mc and following myomectomy live birth rate is increased[11]. Pain in fibroids occurred in 14% of patients which is similar to other studies ie,12%[8]. Pain in fibroid is either due to torsion, ischemia, or red degeneration[10] which occurs when fibroid outgrows its blood supply.

Like other studies the incidence of preterm premature rupture of membranes is 5.4%. There was one case of intrauterine fetal death, one case of placenta previa and no case of abruption in this study like other studies the differences were all <2% which according to them is not clinically relevant[12] and that women with fibroid should have close follow up but usually the outcome is good[4,13].

Cesarean section rate is 56.36% in which 12 were emergency cesarean sections which compares well with other studies[4]. Cesarean rate increase 3 times in pregnancies complicated by fibroids compared to 17% for general population[14]. Inications for emergency cesarean section were primary dysfunctional labour, secondary arrest of labour and fetal distress. Cases of soft tissue dystocia also include those cases which had instrumental vaginal delivery and labour was protracted and two of such babies had early neonatal death due to birth asphyxia. This high incidence of labour dystocia is in accordance with other studies[4,9,15].

In 6 (10.9%) patents there was technical difficulty in taking out the baby during cs. In 2 cases baby was taken out through Delee's incision and in one through mid line upper segment incision. Intraoperative problems should be anticipated before hand with the help of ultrasound and surgeon should be well equipped and well prepared. This will greatly reduce the morbidity and mortality of such cases. Post partum Haemorrhage (PPH) occurred in 6(10.9%) patients which correlates well with other studies[16]. PPH occurs due to more engorgement, vascularity, larger bleeding surface and difficulty in achieving strong coordinated contraction by the muscle.

Cesarean myomectomy should be done if pedunculated sub serous fibroid or single fibroid is coming in line of lower segment incision. In this study myomectomy was done in 6 (10.9%) patients, four were sub serous and pedunculated, in two cases fibroids were cut in the line of lower segment incision and were automatically exised. Cesarean myomectomy with above indications have been proved safe[17]. Two patients had cervical fibroid polyps and had continuous bleeding from the polyps improved after polypectomy during pregnancy. Elective myomectomy during pregnancy should be avoided . Cases of successful myomectomy for huge fibroids at a safe distance from endometrial lining, threatening very early pregnancy have been reported[18].

Fibroids generally grow in size during pregnancy under the effect of estrogen and progesterone but this growing effect is not linear throughout pregnancy[19]. In this study there was an overall increase in size of myoma along with period of gestation. This increase in size is

either due to increased vascularity, tissue edema or due to degenenrative changes in the myoma. In younger patients fibroids are muscular, have more receptors and are more responsive to hormones resulting in greater increase in size while in elderly patients fibroids are more fibrous with resulting smaller increase in there size[2].

There were three perinatal deaths. In pregnancies with multiple fibroids three babies had IUGR, amongst which one baby died due to technical difficulty in approaching the fetus even through classical incision. The incidence of intra uterine growth retardation is similar to other studies[8]. Eight patients had fetal distress which was due to protracted labour. Two of the babies delivered by forceps could not survive and had early neonatal death while rest of the six delivered by emergency C/S survived.

CONCLUSION

Most women with fibroids have uneventful pregnancies. Uterine fibroids are associated with increased rate of spontaneous miscarriage, labour dystocia, high cesarean section rate and post partum haemorrhage. Pre term pre mature rupture of membranes, placenta previa, abruption are not higher than normal. Although both fetal and maternal prognosis is good but vigilant monitoring throughout pregnancy is required. Size of fibroids increase during pregnancy. Mode of delivery should be decided at 36 weeks and intra operative difficulties should be anticipated in the light of ultrasound scans.

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