ORIGINAL ARTICLE

IMPACT OF LEIOMYOMA IN PREGNANCY

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Background: Uterine fibroids or leiomyomas are benign tumours that develop in the uterus, a female reproductive organ. These cause severe complications in females during pregnancy. This study was conducted to see the impact of leiomyoma in pregnant females to make decision for its management in future. **Methods:** During one year of study, total 10,842 patients presented in CMH Lahore for antenatal check-up were included in the study. Out of them, 80 patients had leiomyoma in first trimester. They were followed during antenatal period. Maternal age, parity, size of fibroid, complications during pregnancy, labour and delivery, mode of delivery and indications of caesarean section were noted. **Results:** The prevalence of fibroids (≥5 Cm) in pregnant females was 0.74%. The most common complication observed was PPH (31, 38.75%) cases. Miscarriage occurred in 8 (10%) cases, cord prolepses was observed in 6 (7.5%) cases, placental abruption in 6 (7.5%) cases, placenta previa in 2 (2.5%) cases and retained placenta was observed in 1 (1.25%) case. Breech presentation was found in 10 (12.5%) cases and abdominal hysterectomy was done in 10 (12.5%) cases. Preterm labour occurred in 8 (10%) cases and IUGR was present in 5 (6.25%) cases. No maternal was reported during the study. Among all females, 64 (80%) continue their pregnancy up to term (37–40 weeks of gestation), out of which vaginal delivery occurred in 19 (29.69%) while 45 (70.3%) had LSCS due to failure in progress in 17 (37.8%), cord prolapsed in 6 (13.3%) cases, fibroid in lower segment in 3 (6.7%) cases, breech presentation in 10 (22.2%) cases and low lying placenta in 2 (4.4%) cases. **Conclusion:** Pregnancy with fibroid is associated with increase in caesarean section rate especially due to dysfunctional labour and malpresentation. There is also increase in incidence of postpartum haemorrhage and associated hysterectomy.

Keywords: Leiomyoma, Uterine Fibroids, Benign Uterine Tumours

INTRODUCTION

Leiomyomas are benign uterine tumours found in 25–35% females of reproductive age.[1] Risk of having fibroids is increased with increasing age. Since more and more couples are delaying childbirth, fibroids are being encountered in pregnancy increasingly. Most fibroids do not alter their size during pregnancy, but one-third seems to increase in size in the first trimester. Although the data are conflicting and most women with fibroids have uneventful pregnancies, the weight of evidence in the literature suggests that uterine fibroids are associated with an increased risk of spontaneous miscarriage, preterm labour, intrauterine growth restriction, dysfunctional labour, foetal malpositions, postpartum haemorrhage and retained placenta.[2,3] patients in whom the placenta is implanted near a leiomyoma are more likely to be affected.

The risk of preterm labour and delivery also seems to be slightly elevated in these patients. Huge fibroids situated near the placenta may place pregnant patients at slightly increased risk during labour, particularly for hysterectomy and postpartum haemorrhage (PPH). The association with placenta abruption is weak with great variation from study to study. Most evidence supports a causative role for leiomyomas in higher rate of caesarean delivery, particularly in women with bigger fibroids. Despite its adequate size and prospective documentation of leiomyomas in pregnancy, Exacoustos *et al*[4], did not find a higher rate of caesarean deliveries; however, every other study that assessed mode of delivery found a higher caesarean rate among women with fibroids, 48.8% compared with 13.3%. The most common cause of the higher caesarean rates appears to be malpresentation.[5]

The most common postpartum complication with fibroids is PPH, likely caused by altered uterine contractility in women with fibroids. The high rate for emergency hysterectomy in women with fibroids reported in 2 studies supports the hypothesis that the altered contractility of a uterus with fibroids renders it more prone to haemorrhage.[3–5]

The aim of this study was to determine the impact of leiomyoma on pregnancy outcome including associated complications during pregnancy, delivery and the puerperium.

MATERIAL AND METHODS

During one year of study, total 10,842 patients presented in CMH Lahore for antenatal check-up were included in the study. Out of them, 80 patients had leiomyoma in first trimester. They were followed during antenatal period. Maternal age, parity, size of fibroid, complications during pregnancy, labour and delivery, mode of delivery and indications of caesarean section were noted.

RESULTS

In our study, the prevalence of fibroids (≥5 Cm) in pregnant females was 0.74%. Age of the patient with fibroids ranged from 20–40 years. In this study, 4 patients (5%) were between 20–25 years, 22 (27.5%) were 26–30 years and 40 (50%) were 31–35 years. There were 19 (23.75%) cases who were primigravida, 37 (46.25%) had multigravida (gravidity 2–4) while 24 (30%) had grand multigravida (gravidity ≥5).

The most common complication we observed was PPH, which was found in 31 (38.75%) cases and blood transfusion were required in these cases. Miscarriage occurred in 8 (10%) cases, cord prolapse was observed in 6 (7.5%) cases, placental abruption in 6 (7.5%) cases, placenta previa in 2 (2.5%) cases and retained placenta was observed in 1 (1.25%) case. Breech presentation was found in 10 (12.5%) cases and abdominal hysterectomy was done in 10 (12.5%) cases. Preterm labour occurred in 8 (10%) cases and IUGR was present in 5 (6.25%) cases. No maternal was reported during the study.

Among all females, 64 (80%) continued their pregnancy up to term (37–40 weeks of gestation) and 8 (10%) had preterm delivery (24–36^{+6} weeks of gestation) while 8 (10%) had delivery foetus before 24 weeks (miscarriage). Out of 64 cases who continue their pregnancy up to term, out of which vaginal delivery occurred in 19 (29.69%) while 45 (70.3%) had LSCS due to failure in progress in 17 (37.8%), cord prolapsed in 6 (13.3%) cases, fibroid in lower segment in 3 (6.7%) cases, breech presentation in 10 (22.2%) cases and low lying placenta in 2 (4.4%) cases.

Table-1: Demographic Data and Result

Variables	Number (%)
Age	
20–25 years	4/80 (5.0)
26–30 years	22/80 (27.5)
31–35 years	40/80 (50.0)
>35 years	14/80 (17.5)
Parity	
PG	19/80 (23.75)
G_2–G_4	37/80 (46.25)
G_5 and above	24/80 (30.0)
Gestational age	
Term	64/80 (80.0)
Preterm	8/80 (10.0)
Miscarriage	8/80 (10.0)
MOD at term	
C-section	45/64 (70.3)
SVD	19/64 (29.7)
Indications of C-section	
Failure to progress	17/45 (37.8)
Breech	10/45 (22.2)
Cord prolapse	6/45 (13.3)
Fibroid in lower segment	3/45 (6.7)
Low lying placenta	2/45 (4.4)
IUGR	5/80 (6.25)
Retained placenta	1/80 (1.25)
Placental abruption	6/80 (7.5)
PPH	26/80 (32.5)
Causes of PPH	
Uterine atony	23/26 (88.5)
Placenta previa	2/26 (7.7)
Placenta accrete	1/26 (3.8)
Blood transfusion	31/80 (38.8)
Hysterectomy	10/80 (12.5)

DISCUSSION

Pregnancy with a fibroid is a high risk pregnancy, which may lead to complications. The potential effects of these tumours on pregnancy and that of pregnancy on the tumours are important clinical concern since fibroids are commonly detected in women of reproductive age.[5] Uterine fibroids have long been associated with adverse pregnancy events.[1] We found the prevalence of fibroids associated with pregnancy to be 0.74% which was higher that than of reported in nationally and internationally.[2,4,6–8] This suggests that most of leiomyomas are asymptomatic even in pregnancy and hence are left undetected.[9]

Ultrasound is helpful in evaluating the size, site, number and relationship of fibroid to placenta.[4] We found that fibroids were less frequent in women in their first pregnancy as compared to multigravida and grand multigravida. This is in contrast to the study by Kokab *et al*[8], who reported fibroids to be more frequent (52.25%) in patients presenting in their first pregnancy. In our study pregnancy with fibroids was frequently found in MG and GMG which is not consistent with other studies.

Most of our patients presented at age between 31–35 years (50%). Mechanical difficulties due to site of the fibroids may be encountered during labour and fibroids may be associated with malpresentation of the foetus.[10,11] In event of caesarean section myomectomy is not recommended 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 70.3% in this study which is very high as compared to other studies which reported an incidence of 38-72.7%.[5,8,12–14] In the study by Walker *et al*,[14] 72.7% patients delivered by caesarean section amongst which indications of 9 patients were fibroids, while in our study caesarean section rate was 70.3% out of which indication was fibroids alone in 6.6%. Majority of caesarean sections were performed for failure to progress and foetal distress (37.8%) and malpresentation (breech, 22.2%; cord prolapse, 13.3%). Coronado *et al*[15], reported high incidence of malpresentation, especially breech presentation.

Although most of the studies have reported an increase in incidence of spontaneous pregnancy loss in patients with fibroids.[8,13] This association is strong if

there are multiple fibroids or the implantation has occurred in relation to a sub mucous fibroid.[10,13]

Mode of delivery in 70.3% cases was LSCS in our study which is higher in patients without fibroids and is also shown in study conducted by Hina Kokab *et al*.,[8] and Tehente Neguefack C *et al*[16].

Incidence of postpartum haemorrhage was high in our study as is reported in other studies. Abdominal hysterectomy due to massive postpartum haemorrhage was done in 10 (12.5%) cases. it has been reported that fibroids in the myometrium may alter uterine contractility to dysfunctional labour.[1]

CONCLUSION

Pregnancy with fibroid is associated with increase in caesarean section rate especially due to dysfunctional labour and malpresentation. There is also increase in incidence of PPH and associated hysterectomy.

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