

Impact of Uterine Fibroids on the Obstetric Performance of the Women; Complications and Pregnancy Outcome

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ABSTRACT

Objective: The objective of this study was to determine the effect of uterine fibroids on pregnancy outcome.

Design: A prospective comparative study.

Setting: This study was carried out in the department of obstetrics and Gynaecology, Lady Willingdon Hospital Lahore from January 2008 – December 2010.

Participants: The study group consisted of 100 pregnant women with uterine fibroids and control group comprised of 100 randomly selected pregnant women with a normal uterus.

Main outcome measure: We compared age, parity, gestational age, pregnancy and labour complications, mode of delivery location of fibroid, need for blood transfusion, delivery blood loss, neonatal and maternal stay.

Results: The majority of women in the two groups belonged to the age group between 25 to 35 years. Women in the study group were nulliparous than control (53% vs 27%). The complications of PROM, preterm labour, abruption, placenta previa and retained placenta were not quite different in the two groups. Postpartum haemorrhage, estimated blood loss and need for blood transfusion were greater in the study group. The abortion rate was twice than in the controls (11% vs 5%). The rate of caesarean section was also higher among women with uterine fibroids (52% vs 32%). Patients delivering at more than 37 weeks gestation were almost similar in number with similar birth weight of babies in both groups.

Conclusion: Although uterine fibroids are associated with and increased risk of abortions and caesarean section, the results of other pregnancy associated complications in our patients with uterine fibroids is encouraging.

Key words: Fibroids, pregnancy, uterus

INTRODUCTION

Uterine fibroids are present in approximately 20-50% of women of reproductive age^{1,4}. The prevalence of leiomyoma during pregnancy is reported as 2%^(2, 3, 6) during pregnancy, uterine leiomyomas are usually asymptomatic but may be occasionally complicated by red degeneration^{2,6,7,8}. Pain, which is often due to degeneration of the fibroids is usually managed conservatively during pregnancy^{5,25}.

One in ten women will have complications related to fibroids in pregnancy^{3,12}. Fibroids during the first trimester are associated with an elevated risk of abortion while later on the risk of PROM, preterm labour, abruption, malpresentations, retained placenta and postpartum haemorrhage is increased^{3,5,6,7,8}. The rate of caesarean section is also higher in patients with fibroids with a large proportion being directly related to the fibroids^{3,5,25}. The management of uterine leiomyoma during pregnancy is largely expectant and its surgical

removal is generally delayed until after delivery because of uncontrollable haemorrhage^{2,5,13,14,15,16}. Most obstetricians advise against myomectomy at the time of caesarean section, unless the myoma is pedunculated^{5,22}. Three cases have been described where myomectomy was performed to achieve delivery^{5,12,26}.

Ultrasound studies have shown that about 20% of fibroids increase in size and a similar percentage decrease during pregnancy. The greatest increase in volume occurs before the 10th gestational week^{5,17}. Most uterine fibroids either stop growing or decrease in size postpartum⁵. The occurrence of any pregnancy complication associated with the presence of fibroid was attributed to the fibroid itself^{3,18,19}. This study was carried out to find the impact of uterine fibroids over the obstetric performance of a woman.

MATERIALS AND METHODS

This study was conducted in Lady Willingdon Hospital, Lahore in 2 years duration from January 2009 to December 2010. In the study group, all the patients having singleton pregnancy associated with

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fibroid uterus or directly presented to the labour ward (with normal liquor volume, normal fetus, without medical disorder and having no previous caesarean section or myomectomy scar) were included. The data was analyzed regarding maternal age, parity, any complication during pregnancy, labour or delivery, mode of delivery and indication for caesarean section. The control group consisted of 100 randomly selected pregnant women having normal uterus on ultrasonography, a known pregnancy outcome and exclusion criteria employed was the same as in the study group. We compared the percentages of the two groups.

RESULTS

We identified 100 pregnancies with uterine fibroids and a similar number of control pregnancies without fibroids. Pregnancies with and without fibroids were similar with respect to age. The difference in the maternal age was not so significant in both groups.

Age Group	Fibroids (study group)		No fibroid (control group)	
	No	%age	No	%age
<25 yrs	28	28	35	35
25-35 yrs	61	61	56	56
>35 yrs	11	11	9	9

Parity: Regarding parity, there is delayed first conception in patients presenting with fibroids i.e. 53% were primigravida as compared to 27% patients in the control group.

Parity	Fibroids (study group)		No fibroid (control group)	
	No	%age	No	%age
Primigravida	53	53	27	27
G ₂₋₄	36	36	52	52
G _{5->}	11	11	21	21

Gestational age: Considering gestational age, in the study group 11% pregnancies ended up in abortion while in control group, abortion rate was almost half i.e. 5%. In both groups, rate of preterm delivery and patients delivering at >37 weeks gestation were almost similar in number with similar birth weight of babies.

Gestational Age	Fibroids (study group)		No fibroid (control group)	
	No	%age	No	%age
< 24 weeks	11	11	5	5
24 – 34 weeks	3	3	2	2
34 – 37 weeks	4	4	4	4
>37 weeks	82	82	89	89

Birth weight	Fibroids (study group)		No fibroid (control group)	
	No	%age	No	%age
< 2 Kg	14	14	7	7
2-3 Kg	49	49	54	54
>3 Kg	37	37	39	39

Location of fibroids: Regarding location of fibroids, 30% were located in the upper segment, 35% were in the lower segment and 35% fibroids were in supracervical region. 42% fibroids were present in the anterior uterine wall while 58% in the posterior uterine wall 14% were attached with the placenta.

Location of Fibroids	Fibroids (study group)	
	No.	%age
Upper Segment	30	30
Lower Segment	35	35
Supracervical Region	35	35
Anterior wall	42	42
Posterior wall	58	58
Attached with placenta	14	14

Complications: Considering complications, no significant differences in the incidence of abdominal pain, preterm deliveries, preterm rupture of membranes abruption, placenta previa and retained placenta in both groups. The abortion rate was high i.e. 11%, almost twice in patients presenting with fibroids as compared to the control group without fibroids i.e. 5%. Overall caesarean section rate was also high in the study group i.e. 52% as compared to the control group i.e. 32%. Spontaneous vaginal delivery rate was 37% in patients presented with fibroids while it was 63% in patients presenting with normal uterus.

Complications	Fibroids (study group)		No fibroid (control group)	
	No	%age	No	%age
Abdominal pain	8	8	11	11
Abortion	11	11	5	5
Preterm Labour	7	7	6	6
PPROM	4	4	3	3
Abruption	2	2	6	6
Placenta Previa	8	8	16	16
PPH	26	26	12	12
LSCS	52	52	32	32
SVD	37	37	63	63

Postpartum heamorrhage was observed in 26% of the patients presenting with the fibroids as compared to the 12% patients with normal uterus. This high incidence of heamorrhage in the study group is directly related to the presence of the fibroids. Estimated blood loss at delivery ranged from 200ml –

1150 ml in the study group and it was 200ml – 750ml in control group. Need for blood transfusion was greater in the study group. Neonatal admission and stay in neonatal unit were almost similar in both groups. The maternal stay is longer in patients with fibroids as compared to control population.

Description	Fibroid Group	Control Group
Need for blood transfusion	16	5
Delivery Blood loss	200-1150 ml	200-750 ml
Neonatal admission	12	9
Maternal Stay	3-7 Days	1-3 Days
Neonatal Stay	1-7 Days	1-7 Days

DISCUSSION

Routine performance of early ultrasound evaluation of our antenatal cases and the compliance of our patients resulted in the success of our study. Maternal age was not quite different from controls in our study while in other studies maternal age was found to be higher in the group of women with fibroids^{3,18 20}. The association of fibroids with nulliparity is in agreement with the previous studies by Coronado and Buttram^{3,20,21}. Hina Kokab and Nudrat Elahi reported that 56% of patients in the study group were primigravidas as compared to 12% in the control group while in our study it was 53% and 27% respectively³. Another study by Jay Goldberg reported similar incidence in both study and control population¹.

Considering gestational age, in both groups rate of preterm delivery and patients delivering at > 37 weeks gestation were almost similar in number with similar birth weight of babies. A study by HinaKokab and Nudrat observed the same incidences³ while study by Jay Goldberg reported higher incidence of preterm delivery in patients with fibroids¹.

As a result of uterine enlargement, nutrient arteries supplying the fibroids become twisted and stretched causing red degeneration of fibroids during pregnancy. It presents clinically as localized pain and tenderness, low grade fever and an elevated white blood cell count. Pain requires analgesics, fluids, bed rest and antibiotics.

Regarding complications, no significant differences in the incidence of abdominal pain, preterm deliveries, preterm rupture of membranes, abruption, placenta previa and retained placenta were noted in both groups in our study. A study by NudratElahi reported almost similar incidences³.

As far as the abortion and overall caesarean section rates were concerned, they were found to be high in the fibroid group i.e. 11% and 52% as

compared to the control population i.e. 5% and 32% in our study. Similar trends were observed by NudratElahi, Jay Goldberg, Robert Buttram and Rosati^{1,3,19, 21, 22, 23}.

Recurrent pregnancy wastage may be caused by one of several factors. Increased uterine irritability either because of rapid growth of fibroid and degeneration or alteration in oxytocinase activity, may interfere with normal pregnancy maintenance. The compressive effect of myomas may alter the endometrium directly and disrupt the normal growth process of the conceptus mechanically. The compromised endometrial vascular supply also affects the fetus adversely resulting in abortion.

Postpartum haemorrhage was observed in 26% of the patients presenting with the fibroids as compared to the 12% patients with normal uterus. This high incidence of haemorrhage in the study group is directly related to the presence of the fibroids. Jay Goldberg also described high incidence of postpartum haemorrhage in the study group while NudratElahi reported equal incidence of postpartum haemorrhage in both study and control groups^{1,3}.

Considering estimated blood loss at delivery and need for blood transfusion, it was found to be higher in the patients with fibroid as compared to the women with normal uterus in our study. This result coincides with the study by Jay Goldberg but contradicts the study by Hina & Nudrat^{1,3}. The incidence of lower segment and retroplacentamyoma in our study is very closely related to the study by Hina and Nudrat³.

Neonatal admission, stay in neonatal unit and longer maternal stay in hospital is similar to the study reported by Jay Goldberg¹.

CONCLUSION

In this study we observed that pregnancies with uterine fibroids did well overall with most delivering at term. Uterine fibroid was strongly related to abortion and increased rate of caesarean section, greater blood loss and need for blood transfusion and longer maternal stay. Considering the pregnant women with fibroid as high risk, through frequent ultrasound assessment, we can monitor the pregnancy. If lower segment myoma or supracervical fibroid is found, the case should be referred to a tertiary care center, where expert medical staff is available to deal with the emergency situation. Women having current pregnancy complications owing to myoma, should undergo myomectomy prior to the next pregnancy.

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