

# Determine the Impact of Uterine Leiomyoma on Pregnancy Outcomes

Uterine  
Leiomyoma on  
Pregnancy

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## ABSTRACT

**Objective:** To examine the impact of uterine leiomyoma on pregnancy outcome was the objective of this study.

**Study Design:** Descriptive study

**Place and Duration of Study:** This study was conducted at the Department of Obstetrics & Gynaecology, Sandemen Provincial Teaching Hospital Quetta from July 2019 to December 2019.

**Materials and Methods:** Forty four pregnant females with greater than 3cm leiomyoma were included. Those who have less than 3cm leiomyoma were excluded from the study. During antenatal period selected females were properly followed. Size of leiomyoma, parity, maternal age, labour and delivery, pregnancy complications, caesarean section indications and type of delivery were noted.

**Results:** Sixteen (36.4%) females were asymptomatic during pregnancy. Eight (18.2%) females had abdominal pain, the most common complication during antenatal period. Sixteen (36.4%) delivered through vaginal route and remaining females 28 (63.5%) were delivered through lower segment caesarean section (LSCS) in which elective lower segment caesarean section 18 (41%) and emergency lower segment caesarean section were 10 (23%). 10 (23%) experienced postpartum haemorrhage (PPH) but managed predictably. Due to fibroid in lower segment only two (4.5%) patients ended up in hysterectomy. No perinatal mortality was observed during study.

**Conclusion:** There are high risk pregnancies due to uterine leiomyoma and these pregnancies also increase the caesarean delivery rate as well as increase chances of postpartum haemorrhage and long stay at hospital.

**Key Words:** Uterine leiomyoma, Complications, Lower segment caesarean section, Postpartum hemorrhage, Hysterectomy

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## INTRODUCTION

Uterine leiomyoma commonly occur in females of reproductive age. Various studies shows that twenty percent of all females and forty percent of over 40-years of age females have uterine leiomyoma.<sup>1,2</sup> Mostly leiomyoma appeared in fundus and uterus body and cervical leiomyoma are only 3%.<sup>3</sup> Due to increase estrogen and progesterone level during pregnancy, 15% to 30% myomas get enlarged but mostly reduce during puerperium.<sup>4</sup> Leiomyoma pregnancies commonly asymptomatic and have no acute complications but sometimes harmfully affected the course of pregnancy.<sup>4,5</sup> Less than 3cm leiomyoma are not significant clinically.<sup>6</sup>

Chances of miscarriage increases when leiomyoma located in uterine cavity and also increase the chance of

preterm labour, pre-mature membranes rupture<sup>5</sup> when leiomyoma may undergo red degeneration during pregnancy, it may cause the lower abdominal acute pain.<sup>7</sup> The risk of mal-presentation, abdominal implantation of placenta, abruption of placenta, preterm labour, intrauterine growth restriction, dysfunctional labour, obstructed labour increases due to leiomyoma/fibroid and also the rate of caesarean section.<sup>8-9</sup> Increase rate of caesarean section was found in females who have leiomyoma because of distortion of birth canal and other obstetric reasons.<sup>10</sup>

## MATERIALS AND METHODS

This descriptive study was conducted at Department of Obstetrics & Gynecology (Unit I & II), Sandemen Provincial Teaching Hospital Quetta from 1<sup>st</sup> July 2019 to 31<sup>st</sup> December 2019. All pregnant females with greater or equal to 3cm leiomyoma were included in this study and those who have less than 3cm leiomyoma were excluded from study. Total 44 patients were followed ultrasonically and clinically during antenatal period. Through ultrasound leiomyoma / fibroids were diagnosed and built-up the hemoglobin. To see the changes in growth of baby, size, placental localization and mal-presentation, a serial ultrasound was done. The patients were admitted to obstetrics and gynecology department when pain occurs or threat of preterm labour. Size of fibroid/leiomyoma, maternal age,

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pregnancy complications, parity, labour or delivery, caesarean section indications, type of delivery were noted during the study. The data was entered and analyzed using SPSS-20.

## RESULTS

During the study period there were 44 pregnant females with leiomyoma  $\geq 3$ cm. The age range of patients who have leiomyoma was 20-years to 40-years. 16 (36.5%) patients were between 20-years to 25-years of age in this study. Between 26-years to 30-years of age there were twenty four (55%) patients and more than thirty years 4 (9%) patients in the study (Table 1). Before pregnancy, eight (18%) patients were knew about leiomyoma whereas 4 (9%) patients were diagnosed through routine ultrasound before twelve weeks of gestation. 16 (36.5%) majority of patients were diagnosed between 13-weeks to 20-weeks. At 21-weeks to 28-weeks ten (23%) patients come to know about leiomyoma and 6 (15%) at 29-weeks to 36-weeks (Table 2)

The asymptomatic patients were fourteen (32%). Due to red degeneration acute pain was observed in sixteen patients who were managed conservatively with analgesics and complete bed rest. Six (13.5%) patients of them had repetitive problem and more than 2 to 3 times were admitted in hospital. There was malpresentation e.g. oblique, transverse and breech was found in six (13.5%) patients. There were two (4.5%) females who had type-III placenta previa and during antenatal period both had one episode of mild to moderate bleeding. Low birth weight (LBW) was found in four patients and preterm labour was started in 4 (9%) patients (Table 3). During delivery fetal distress was found in 6 (13.5%) patients, prolonged labor found in 4 (9%) patients and postpartum hemorrhage found in 10 (23%) patients (Table 4).

Sixteen females were delivered by vaginal route and remaining 28 (63.5%) patients delivered by lower segment caesarean section (LSCS) in which eighteen (41%) were elective C-section and 10 (23%) were emergency lower segment caesarean sections because of failure to progress and fetal distress. Indications of lower segment C-section was shown in Table 5.

Due to leiomyoma in the lower uterine segment, 2 (4.5%) patients underwent caesarean hysterectomy as it resulted in postpartum haemorrhage (PPH). Conservatively the remaining postpartum haemorrhage (PPH) patients were managed. Due to pre-maturity, there were four babies who were admitted to nursery. There was no perinatal mortality was observed during the period of study.

**Table No.1: Frequency of age (n=44)**

Age (Years)	No.	%
20-25	16	36.5
26-30	24	54.5
> 30	4	9.0

**Table No.2: Duration of gestation age at diagnosis (n=44)**

Duration	No.	%
Before pregnancy	8	18.0
< 12 weeks	4	9.0
13-20 weeks	16	36.0
21-28 weeks	10	23.0
29-36 weeks	6	13.5
>36 weeks	-	-

**Table No.3: Frequency of complications during pregnancy (n=44)**

Complication	No.	%
Asymptomatic	16	36.5
Abdominal pain	8	18.0%
Low birth weight	4	9.0
Preterm labour	4	9.0
Placenta previa	2	4.5
Abortion	4	9.0
Malpresentation	6	13.5

**Table No.4: Frequency of complications during delivery (n=44)**

Complication	No.	%
Fetal distress	6	13.5
Prolonged labour	4	9.0
Postpartum haemorrhage	10	23.0
No complication	24	

**Table No.5: Mode of delivery (n=44)**

Mode	No.	%
Spontaneous vaginal delivery	16	36.5
Lower segment caesarean section	28	63.5
Caesarean hysterectomy	2	4.5

**Table No.6: Lower segment caesarean section indications (n=28)**

Indication	No.	%
<b>Elective caesarean section</b>		
Malpresentation	6	21.43
Placenta previa	2	7.14
Cervical/lower segment leiomyoma	4	14.29
Moderate PIH	2	7.14
Scared uterus	4	14.29
<b>Emergency caesarean sections</b>		
Failure to progress	4	14.29
Fetal distress	6	21.43

## DISCUSSION

Pregnancy with leiomyoma / fibroid is conceivably major issue. In the majority of cases it does not impact pregnancy results yet now but in some cases depending on its size, location and placental attachment site may result in miscarriage, preterm labour, postpartum haemorrhage, pre-mature rupture of membrane and uterine inversion. In our study, the age range of patients who have leiomyoma was 20-40 years. 16 (36.5%) patients were between 20-25 years of age in this study.

Between 26-30 years of age there were 24 (55%) patients and >30 years 4 (9%) patients. A study conducted by Saleh et al<sup>11</sup> reported mean age of patients was 31.80±3.27 years. In the current study, during pregnancy we recorded complications, in which asymptomatic found in 16 (35%) patients use to red degeneration acute pain was observed in sixteen patients who were managed conservatively with analgesics and complete bed rest. Six (13.5%) patients of them had repetitive problem and more than 2 to 3 times were admitted in hospital. There was mal-presentation e.g. oblique, transverse and breech was found in six (13.5%) patients. There were two (4.5%) females who had type-III placenta previa and during antenatal period both had one episode of mild to moderate bleeding. Low birth weight (LBW) was found in four patients and preterm labour was started in 4 (9%) patients. These results were comparable to some other studies.<sup>12-13</sup>

In the present study, during delivery fetal distress was found in 6 (13.5% patients, prolonged labor found in 4 (9%) patients and postpartum hemorrhage found in 10 (23%) patients. A study conducted by Thomas et al<sup>14</sup> reported abdominal pain and vaginal bleeding and postpartum hemorrhage is associated with uterine fibroids. In this study, sixteen females were delivered by vaginal route and remaining 28 (63.5%) patients delivered by lower segment caesarean section (LSCS) in which eighteen (41%) were elective C-section and 10 (23%) were emergency lower segment caesarean sections because of failure to progress and fetal distress. These results were similar to many other studies in which C-section delivery was high in numbers.<sup>15-16</sup>

Pregnancy loss by only two (4.5%) patients in our study but it was higher in other studies<sup>17-18</sup>, it may be due to majority of patients had antenatal booking in our series during late second trimester. Myoma may deform uterine cavity and resulted in mal-presentation. Delivery before term in 4 (9%) of our patients but in a different studies frequency of preterm delivery was high as compared to our study.<sup>19-20</sup>

Lower segment caesarean section (LSCS) was done in 63.5% patient, which is higher in patients without leiomyoma. These results showed similarity to some other studies.<sup>21-22</sup>

## CONCLUSION

There are high risk pregnancies due to uterine leiomyoma and these pregnancies also increase the caesarean section rate and also increase the chances of postpartum haemorrhage. Leiomyoma/fibroid may affect the course of pregnancy adversely and labour depending upon their size and location. So needs particular follow-up.

### Author's Contribution:

Concept & Design of Study: Zaib-un-Nisa

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**Conflict of Interest:** The study has no conflict of interest to declare by any author.

## REFERENCES

1. Wallach EE, Vlahos NF, Benson CB, Chow JS, Chang Lee W, Hill JA, et al. Outcome of pregnancies in women with uterine leiomyomas identified by sonography in the first trimester. *J Clin Ultrasound* 2001; 29:261-4.
2. Acien P, Quereda F. Abdominal myomectomy: result of a simple operative technique. *Fertil Steril* 1996; 65:41-51.
3. Roberts WE, Fulp KS, Morrison JC, Martin JN. The impact of leiomyomas on pregnancy. *Aust N Z J Obstet Gynecol* 1999;39:43-7.
4. Coronda GD, Marshall LM, Schwartz SM. Complications in pregnancy labour and delivery with uterine leiomyomas: a population based study. *Obstet Gynecol* 2000;95:764-9.
5. Laughlin SK, Schroeder JC, Baird D. New directions in the epidemiology of uterine fibroids. *Semin Reprod Med* 2010; 28(3): 204-17.
6. Eze CU, Odumeru EA, Ochie K, Nwadike UL, Agwuna KK. Sonographic assessment of pregnancy co-existing with uterine leiomyoma in Owerri, Nigeria. *Afr Health Sci* 2013;13(2): 453-60.
7. Poovathi M, Ramalingam R. Maternal and fetal outcome in pregnancy with fibroids: a prospective study. *Int J Sci Study* 2016; 3(11): 169-72.
8. Battram VC, Reiter RC. Uterine leiomyoma: etiology symptomatology and management. *Fertile Steril* 1998;36&:433-46.
9. Stout MJ, Odibo AO, Graseck AS. Leiomyomas at routine second-trimester ultrasound examination and adverse obstetric outcomes. *Obstet Gynecol* 2010; 116: 1056-63.
10. Lefebure G, Vilos G, Allaire C, Jeffery J, Arneja J, Birsh C, et al. The management of uterine leiomyoma. *Clinical practice Gynaecological Committee. Obstet Gynecol Can* 2003;25:396-418.
11. Saleh HS, Mowafy HE, Abd El-Hameid AA, Sherif HE, Mahfouz EM. Does Uterine Fibroid Adversely Affect Obstetric Outcome of Pregnancy? *Biomed Res Int* 2018;2018:35-39.
12. Lam SJ, Best S, Kumar S. The impact of fibroid characteristics on pregnancy outcome. *Am J Obstet Gynecol* 2014; 211(4): 395-9.
13. Ciavattini A, Clemente N, Delli Carpini G, Di Giuseppe J, Giannubilo SR, Tranquilli AL.

- Number and size of uterine fibroids and obstetric outcomes. *J Mat Fetal Neonat Med* 2015; 28(4): 484–8.
14. Egbe TO, Badjang TG, Tchounzou, R, Egbe EN, Ngowe MN. Uterine fibroids in pregnancy: prevalence, clinical presentation, associated factors and outcomes at the Limbe and Buea Regional Hospitals, Cameroon: a cross-sectional study. *BMC Res Notes* 2018;11:889-94.
  15. Downes E, Sikirica V, Gilabert-Estelles J, Bolge SC, Dodd SL, Maroulis C, et al. The burden of uterine fibroids in five European countries. *Eur J Obstet Gynecol Reprod Biol* 2010;152:96–102.
  16. Conti N, Tosti C, Pinzauti S, Tomaiuolo T, Cevenini G, Severi FM, et al. Uterine fibroids affect pregnancy outcome in women over 30 years old: role of other risk factors. *J Matern Fetal Neonatal Med* 2013;26:584–7.
  17. Benaglia L, Cardellicchio L, Filippi F, Paffoni A, Vercellini P, Somigliana E, et al. The rapid growth of fibroids during early pregnancy. *PLoS One* 2014;9(1): e85933.
  18. Girault A, Le Ray C, Chapron C, Goffinet F, Marcellin L. Leiomyomatous uterus and preterm birth: an exposed/unexposed monocentric cohort study. *Am J Obstet Gynecol* 2018; 219:410.e1.
  19. Zhao R, Wang X, Zou L, Li G, Chen Y, Li C, et al. Adverse obstetric outcomes in pregnant women with uterine fibroids in China: a multicenter survey involving 112,403 deliveries. *PLoS One* 2017; 12:e0187821.
  20. Tower AM, Cronin B. Myomectomy after a vaginal delivery to treat postpartum hemorrhage resulting from an intracavitary leiomyoma. *Obstet Gynecol* 2015; 125:111
  21. Lai J, Caughey AB, Qidwai GI, Jacoby AF. Neonatal outcomes in women with sonographically identified uterine leiomyomata. *J Matern Fetal Neonatal Med* 2012;25:710–3.
  22. Pergialiotis V, Sinanidis I, Louloudis IE, Vichos T, Perrea DN, Doumouchtsis SK. Perioperative Complications of cesarean delivery myomectomy: a Meta-analysis. *Obstet Gynecol* 2017; 130:1295.