

## OUTCOMES OF CAESAREAN MYOMECTOMY - A RETROSPECTIVE STUDY

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**ABSTRACT:** The traditional teaching was not to touch a fibroid during pregnancy, in fear of possibility of intractable intra operative bleeding and post-operative morbidity. In the recent years with advent in obstetric analgesia and availability of blood banks, many have been attempting myomectomy along with caesarean section [CS]. The advantages being avoiding laparotomy at the later date, for a myomectomy or hysterectomy and also preventing the complications like abortions, preterm deliveries that can occur in the future pregnancy of the patient. In the developing countries where the cost of surgery is being paid by the individuals, it is of much significance, if we can perform 2 surgeries in one sitting, sparing the cost and hospitalization time of a second surgery. A 2 years retrospective study from June 1<sup>st</sup> 2011 to May 31<sup>st</sup> 2013 was conducted on the effects of myomectomy during caesarean section and compared the morbidity with normal caesarean section deliveries. The routine protocol of Myomectomy, like a written informed consent, availability of blood products and antibiotic prophylaxis is recommended. All principles of Myomectomy were followed. In places where it is possible, myoma was removed through the caesarean incision itself. In subjects requiring additional incision, it was placed according to the site of fibroids. In cornual fibroids a vertical incision was preferred to avoid trauma to fallopian tube. In most of the other cases transverse incision was used. Obliteration of dead space in the bed of fibroid was done with sutures in multiple layers. It was found that myomectomy during caesarean section did not cause significant morbidity to the patient. There was no need for hysterectomy in this series of 26 cases. Thus has the advantage of avoiding a second laparotomy and anesthesia later for myomectomy / hysterectomy. Each surgery adds to the risk of adhesions adding to the importance of removing the fibroid along with caesarean.

**KEYWORDS:** fibroid, myomectomy, caesarean section.

**INTRODUCTION:** There is an increase in the incidence of fibroid complicating pregnancy up to 5% due to a delay in the child bearing age and due to an increase in detection rate by ultrasound.<sup>[2]</sup> Of these 10% may cause pregnancy complications like abortion, preterm labour, premature rupture of membranes, malpresentations, ante partum haemorrhage, dysfunctional labour, obstructed labour, increased rate of caesarean delivery and post partum haemorrhage. Fibroids are also more prone for red degeneration, infection and torsion during pregnancy.<sup>[3, 5]</sup>

Management of fibroid during pregnancy is invariably expectant. Fibroid per se is not an indication for caesarean. Caesarean sections are being done for obstetric or medical reasons, poses the question, whether to remove the fibroid along with caesarean section. This is a therapeutic dilemma, as the conventional teaching is to avoid Myomectomy in CS. The fear of Myomectomy during CS was always about a catastrophic haemorrhage, which would require

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multiple blood transfusions, increase in operative time and sometimes may end up in hysterectomy.<sup>[9]</sup> Not to forget the feared post-operative complications like haemorrhage, febrile morbidity, sepsis and prolonged hospital stay. Long term complications like future subfertility, integrity of Myomectomy scar during future pregnancy and labour were of great concern.

Many authors have come up with studies proving the safety of Myomectomy during caesarean section. Apart from subserous, pedunculated fibroids intramural and submucous fibroids were also myomectomised safely.

The physiological changes during pregnancy may actually make Myomectomy successful along with CS. The enucleation of fibroid becomes technically easier in a gravid uterus due to flexibility of capsule. The contraction and retraction of uterine musculature following delivery, the vascular changes associated with clot formation in placental bed and post-partum myometrium responding well to oxytocics, all tend to reduce the blood loss following caesarean myomectomy.<sup>[2,10,21]</sup>

## **MATERIAL AND METHODS:**

**Objective** of the study is to know whether Myomectomy done during caesarean section has caused any increase in morbidity to the mother.

A two year retrospective study was done from June 1<sup>st</sup> 2011 to May 31<sup>st</sup> 2013, after getting clearance from ethical committee of the institute on the effects of myomectomy during caesarean section and compared the morbidity with normal caesarean deliveries, i.e. patients without fibroids.

Morbidity of all patients who have undergone Myomectomy in the 2 years was compared with the total number of patients, without fibroid uterus who underwent CS.

The antenatal problems, variables like age, parity, size and location of the fibroids, intra operative blood loss and post-operative morbidity were compared with same age group patients with or without fibroids who underwent caesarean for different indications. The indications in all cases were obstetric causes, including hindrance caused by lower segment fibroids to vaginal delivery. In all patients consent for myomectomy (and hysterectomy) was taken either pre operatively or intra operatively, in cases with incidental finding of fibroids. In all patients with pre-operative diagnosis 2 units of packed red cells were arranged.

After delivery of the fetus and placenta, proceeded to myomectomy, whenever possible approach was through the same incision including the only submucous fibroid which was located in posterior wall. In fibroids located away from incision for caesarean, conventional incision was put over the myoma after injecting vasopressin in dilution. Whenever a separate incision had to be made for myomectomy, the caesarean incision was sutured and haemostasis achieved before proceeding for myomectomy.

Care was taken to keep the number of incisions to the minimum by approaching adjacent fibroids through the same incision. Whenever possible the incision was placed on the anterior aspect of uterus. After enucleating the fibroid the bed was obliterated by interrupted sutures using no: 1- 0 vicryl, excess capsule was excised and defect closed by continuous interlocking sutures using no: 1 vicryl. Additional sutures were applied in some cases to achieve haemostasis. Intra operative blood loss was calculated by the mop counts and the amount in suction

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apparatus. Prophylactic antibiotics were given to all patients after clamping the cord. In patients with excessive oozing a peritoneal drain was kept which could be removed in all cases on the next day.

**OBSERVATION:** The incidence of fibroids complicating pregnancy during the study period was 1.6% [46 cases in 2560 deliveries] of which 26 subjects were delivered by CS and they were included in the study group.

Of the 26 subjects 22 had pre-operative diagnosis of fibroids, in the remaining four, it was an incidental finding of small fibroids at surgery. In 20 subjects lower segment transverse incision could be made, in 4 subjects lower segment vertical incision was chosen and in 2 subjects classical caesarean had to be performed due to non approachable lower uterine segment. There were 1113 caesarean sections during the same period, out of this 1087 were without fibroids / Myomectomy.

The incidence of CS with fibroid complicating pregnancy was 56%, whereas our hospital CS incidence for non fibroid cases was 42%, as it is tertiary referral centre.

The mean age of the subjects was 27.8 years.

Total 26 subjects were with fibroid uterus of, single fibroid 10 subjects, multiple fibroid 16 subjects.

Size wise distribution was as follows, less than 5cms six subjects, between 5 -9cms, eleven subjects and more than 10cms there were nine subjects.

Mean size of fibroids was 7cms and largest being 13cms.

Seven subjects had both intra mural and subserous fibroids, 17 subjects only had intra mural fibroids. One subject had only single subserous fibroid and another had a sessile submucous fibroid.

Majority, 55%, 14 out of 26, were symptomatic during antenatal period with recurrent abdominal pain. [Table1]

Mean gestational age at CS was 37 weeks 5 days.

In 9 out of 26 subjects had preterm labour pains and were attempted to treat with tocolytics. Indication for CS was malpresentation in the majority 61% [15 out of 26] and different attributable causes were fibroids, cephalo pelvic disproportion and placenta praevia. The mean time required for CS myomectomy was 56.46 minutes. The minimum time required was 32 minutes. The maximum time required was 92minutes. Only 26.9% required blood transfusion, i.e. 7 subjects out of 26.

All the subjects in the group were hemodynamically stable throughout the procedure and post operatively, though 7 subjects were given blood transfusion in view of the blood loss during surgery and to correct pre-operative Hb levels. Though there was a statistically increased CS rate in patients with fibroids and increased need for blood transfusion in patients undergoing myomectomy along with CS, there was no significant increase in puerperal sepsis in the CS myomectomy group compared with CS alone group. [Table 2]

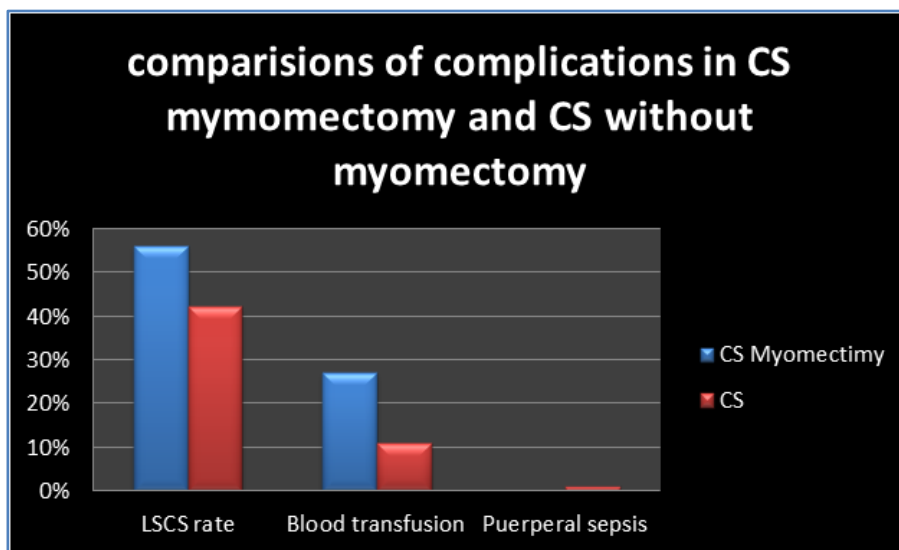
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	N	Range	Minimum	Maximum	Mean	Standard Deviation
Age in years	26	13	23.00	36	27.88	3.241
Gestational age in days at CS	26	36	244.00	280	263	8.232
Intra operative time in minutes	26	60	32.00	92	56.46	18.318
Number of hospital stay in days	26	7	5.00	12	5.58	1.447

**Table 1: SPECIFIC PARAMETERS OBSERVED**

	CS Myomectomy	CS
LSCS rate	56%	42%
Blood transfusion	26.9%	11%
Hospital days	7	5
Puerperal sepsis	Nil	1%

**Table 2: LSCS RATE WITH AND WITHOUT MYMOMECTOMY**



**Figure 1**

**DISCUSSION:** Myomectomy during caesarean section does not cause significant morbidity to the patient. It has the advantage of avoiding a second laparotomy later for myomectomy / hysterectomy, thus avoiding anaesthesia, another surgery in a case of previous CS with added risk of adhesions.

Caesarean myomectomy offers better obstetric outcome in the future pregnancy, by negating the probable complications due to fibroid like, abortions, preterm labour, malpresentations and difficult extraction of baby during CS. Another advantage being the reduction in the cost when 2 surgeries are combined together. Incidence of fibroids in pregnancy ranges from 0.3 to 5%. There is also an increasing trend of delaying marriage and child bearing, which will contribute to an increase in incidence of fibroids in pregnancy.<sup>[1-4]</sup>

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Larger fibroids (>5cm) are more likely to grow rapidly during pregnancy and can cause miscarriages, obstructed labour, malpresentations, pressure symptoms, pain due to red degeneration, infection, preterm labour, preterm premature rupture of membranes, retained placenta, postpartum haemorrhage and uterine torsion.<sup>[5-7]</sup> Katz et al. found that 10–30% of women with uterine myomas associated with pregnancy face the listed complications.<sup>[7]</sup>

Caesarean section rates in women with myomas are higher, up to 73%, providing an opportunity to proceed to Myomectomy after delivering the baby. In our series the rate was 56%. Hawkins and Stallworthy, did advocate Caesarean myomectomy in selected cases, as in the incidence of anterior lower segment myomas on the proposed incision line.<sup>[8]</sup>

Exacoustos and Rosetti reported that in their series of 9 cases of Caesarean myomectomy, three were complicated by severe haemorrhage necessitating hysterectomy; hence, they recommended caution while making the decision to perform this procedure.<sup>[9]</sup>

Some authors report a higher incidence of postpartum haemorrhage and puerperal sepsis if the fibroid is not removed at Caesarean section.<sup>[3, 4]</sup>

The uterus in the immediate postpartum phase is better adapted physiologically to control haemorrhage than at any other stage in a woman's life; hence, it seems logical to perform Caesarean myomectomy. The management of fibroids encountered at Caesarean section remains a therapeutic dilemma. Myomectomy during Caesarean section has traditionally been discouraged due to the risk of uncontrollable haemorrhage, unless the myoma is pedunculated.<sup>[11]</sup> Recent studies have described techniques to minimize blood loss at Caesarean myomectomy including uterine tourniquet, bilateral uterine artery ligation, and electrocautery.<sup>[10,12,13]</sup>

In our series, stepwise devascularisation was required to control atonic PPH in one patient. B Lynch sutures were to be place in 3 patients. Post-partum haemorrhage could be controlled by these measures and none of our patients required hysterectomy. Several authors have now shown that in selected patients and in experienced hands, myomectomy at the time of caesarean section is a safe and effective procedure.<sup>[2,10–21]</sup>

A comparison of various studies on Caesarean Myomectomy was done. Ortac et al. reported 22 myomectomies during Caesarean for large fibroids (>5 cm) and advocate it to minimize postoperative sepsis.<sup>[10]</sup> In another study by Burton et al, of the reported 13 cases of myomectomy at Caesarean section, only 1 case had intra-operative haemorrhage and they concluded it to be safe in selected patients.<sup>[14]</sup>

Kaymak et al compared 40 patients who underwent myomectomy at Caesarean section with 80 patients with myomas who underwent Caesarean section alone. The mean size of the fibroids removed was 8.1cms compared to 5.7cms in the controls. The authors found no significant difference in the incidence of haemorrhage (12.5% in the Caesarean myomectomy group versus 11.3% in the controls), postoperative fever, or frequency of blood transfusions between the 2 groups and concluded that myomectomy during Caesarean section is not always a hazardous procedure and can be performed by experienced obstetricians without any complications.<sup>[2]</sup>

Another series by Hassiakos et al<sup>[21]</sup> also showed that Myomectomy during caesarean in safe inexperienced hands and tertiary care set up. They compared 47 pregnant women with fibroids who underwent Caesarean myomectomy with 94 pregnant women with fibroids who had

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Caesarean section alone. Myomectomy added a mean operating time of 15minutes to the Caesarean section. No patient had a hysterectomy, postpartum complications, or blood transfusion. The length of hospital stay was comparable in both groups; hence, these authors also generally recommended performing the procedure.

Yuddandi reported removal of a 33.3×28.8 ×15.6cms fibroid at Caesarean with an intra-operative blood loss of 1860ml, necessitating blood transfusion.<sup>[22]</sup>

Leanza et al and Igwegbe et al have also reported large myomas removed at Caesarean section.<sup>[23–24]</sup>

In our series of 26 subjects, 7 subjects had less than 1500 ml blood loss and there was no significant postoperative morbidity. Uterine atonicity was found in larger myomas, could be controlled with injection carboprost and B-Lynch sutures. There were no postoperative complications.

Despite the majority of the patients having large myomas and 50% being intramurally located, hysterectomy was not required in any patient. Stepwise devascularisation was necessary in 3 cases. The size of the fibroids was confirmed by the pathology reports, and changes like haemorrhage, infarction, calcification, and hyaline degeneration were seen in 3 fibroids. Myomectomy added an average of 20 minutes to the operating time and 2 days to the hospital stay but there were no significant postoperative complications including sepsis. It may be suggested that myomectomy may be done along with caesarean section by experienced gynecologists in tertiary care set up where facilities for blood transfusion and intensive care are available.

The limitation of this study is the small sample size.

## REFERENCES:

1. Muram D, Gillieson MS, Walters JH. Myomas of the uterus in pregnancy: Ultrasonographic follow-up. *Am J Obstet Gynecol.* 1980; 138: 16–9. [PubMed]
2. Kaymak O, Ustunyurt E, Okyay RE, Kalyoncu S, Mollamahmutoglu. Myomectomy during Cesarean section. *Int J Gynecol Obstet.* 2005; 89: 90–3. [PubMed]
3. Hasan F, Armugam K, Sivanesaratnam V. Uterine leiomyomata in pregnancy. *Int J Gynecol Obstet.* 1990; 34: 45–8. [PubMed]
4. Davis JL, Ray-Mazumder S, Hobel CJ, Baley K, Sassoon D. Uterine leiomyomas in pregnancy: A prospective study. *Obstet Gynecol.* 1990; 75: 41–4. [PubMed]
5. Rosati P, Exacoustas C, Mancuso S. Longitudinal evaluation of uterine myoma growth during pregnancy. *J Ultrasound Med.* 1992; 11: 511–5. [PubMed]
6. Myerscough PR. *Munro Kerr's Operative Obstetrics.* 10th ed. London: Baillière Tindall Publications; Pelvic tumors. Other surgical complications in pregnancy, labor and the puerperium; 1982: pp. 203–411.
7. Katz VL, Dotters DJ, Droegemueller W. Complications of uterine leiomyomas in pregnancy. *Obstet Gynaecol.* 1989; 73: 593–6. [PubMed]
8. Howkins J, Stallworthy J. *Bonney's Gynaecological Surgery.* 8th ed. London: Baillière Tindall Publications; 1974. p.421.

## ORIGINAL ARTICLE

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9. Exacoustos C, Rosati P. Ultrasound diagnosis of uterine myomas and complications in pregnancy. *Obstet Gynecol.* 1993; 82: 97–101. [PubMed]
10. Ortac F, Gungor M, Sonmezer M. Myomectomy during Caesarean section. *Int J Gynecol Obstet.* 1999; 67: 189–90. [PubMed]
11. Roman AS, Tabsh KMA. Myomectomy at the time of Caesarean delivery: retrospective cohort study. *BMC pregnancy and childbirth.* 2004; 4: 14. doi: 10.1186/1471-2393-4-14. [PMC free article] [PubMed]
12. Sapmaz E, Celik H, Altungul A. Bilateral ascending uterine artery ligation vs. tourniquet use for haemostasis in Caesarean myomectomy: a comparison. *J Reprod Med.* 2003; 48: 950–4. [PubMed]
13. Cobellis L, Florio P, Stradella L, Lucia ED, Messalli EM, Petraglia F, et al. Electrocautery of myomas during Cesarean section: two case reports. *Eur J Obstet Gynecol Reprod Biol.* 2002; 102: 98–9. [PubMed]
14. Burton CA, Grimes DA, March CM. Surgical management of leiomyoma during pregnancy. *Obstet Gynecol.* 1989; 74: 70. [PubMed]
15. Kwon SY, Kim TH, Jeong JH, Lee CN. Is myomectomy safe during Cesarean section? *Korean J Perinatol.* 2003; 14: 154–9.
16. Ehigiegba AE, Ande AB, Ojobo SI. Myomectomy during Caesarean section. *Int J Gynecol Obstet.* 2001; 75: 21–5. [PubMed]
17. Ahikari S, Goswami S. Cesarean myomectomy: A study of 14 cases. *J Obstet Gynecol India.* 2006; 56: 486–8.
18. Umezurike C, Feyi-Waboso P. Successful myomectomy during pregnancy: A case report. *Reprod Health.* 2005; 2: 6. [PMC free article] [PubMed]
19. Omar SZ, Sivanesaratnam V, Damodaran P. Large lower segment myoma-myomectomy at lower segment caesarean section – a report of two cases. *Singapore Med J.* 1999 Feb; 40(2):109-10.
20. Li H, Du J, Jin L, Shi Z, Liu M. Myomectomy during Cesarean section. *Acta Obstet Gynecol Scand.* 2009; 88: 183–6. [PubMed]
21. Hassiakos D, Christopoulos R, Vitoratos N, Xarchoulakou E, Vaggos G, Papadrias K. Myomectomy during Cesarean section: a safe procedure? *Ann N Y Acad Sci.* 2006; 1092: 408–13. doi: 10.1196/annals.1365.038. [PubMed] [Cross Ref]
22. Yuddandi N. Management of a massive caseous fibroid at Caesarean section. *J Obstet Gynaecol.* 2004; 24: 455–6. [PubMed]
23. Leanza V, Fichera S, Leanza G, Cannizzaro MA. Huge fibroid (g. 3,000) removed during Cesarean section with uterus preservation. A case report. *AnnItalChir.* 2011; 82: 75–7. [PubMed]
24. Igwegbe AO, Nwosu BO, Ugboaja JO, Monago EN. Inevitable Caesarean myomectomy. *Niger J Med.* 2010; 19: 233–5. [PubMed]

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