

To Study the Safety and Feasibility of Caesarean Myomectomy

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Abstract

Background: Caesarean myomectomy for decades has been averted due to the fear of increased chances of haemorrhage and post operative morbidity. However, a number of studies have recently shown that myomectomy during caesarean section doesn't increase the risk of haemorrhage or post-operative morbidity. *Method:* 16 cases of Caesarean myomectomy are reviewed here. Myomectomy was done, after delivering the baby by lower segment transverse incision followed by suturing with adequate haemostasis. *Results:* The incidence of haemorrhage in the study group was 12.5%. There was no significant increase in the incidence of operating time (55 min.) of postpartum fever (18.75%), and length of postpartum stay (4.68 days). No hysterectomy was done for Post Partum Haemorrhage. Amount of blood loss was not associated with the size & number of myomas. *Conclusions:* This study shows that myomectomy in well selected patients during caesarean section is a safe procedure and is not associated with major intra operative and postoperative complications in experienced hands.

Keywords: Caesarean delivery; Fibroid; Myoma; Myomectomy.

Introduction

The incidence of myoma associated with pregnancy is reported to be around 0.3-5%, with majority of myomas not complicating & thus not requiring surgical intervention during pregnancy or delivery [1]. Till date, obstetricians were afraid to do myomectomy during caesarean section due to the fear of severe haemorrhage, often requiring hysterectomy. The blood loss may be very large, as the size and blood supply of the myomas are increased during pregnancy. So it is better and wiser to perform myomectomy after the complete involution of uterus, preferably after 6 months. But Subserous & Pedunculated fibroids can be easily removed.

Contrarily, the post partum uterus can better control haemorrhage due to contractions and retractions of muscle fibres, which leads to the closure of the blood vessels. Also, along with the onset of haematological changes, there is prompt formation of clot in placental bed, which helps in stopping the bleeding. Hence, myomectomy performed along with caesarean have more advantages. Recent studies too have suggested that

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Caesarean myomectomy is safe, if performed in selected patients and results in no significant increase in post-operative morbidity [1]. If Both the procedures are performed at the same time, then it will reduce the risk of anaesthetic exposure and complications, morbidities of multiple surgeries, risk of intra or postoperative haemorrhage, post operative pain and adhesions, unwarranted costs of operative procedures and hospital stay. It will also allow the women to have a better obstetric outcome in future pregnancies and may avoid the possibilities of hysterectomy if required, at a younger age. If Myomectomy is done along with caesarean section, it may increase the chances of haemorrhage by about 10% [2]. Caesarean myomectomy will relieve the symptoms associated with fibroids and avoids the need for later surgery and sonographic follow-ups for the fibroid after delivery. This study was thus conducted to determine the safety and feasibility of Caesarean myomectomy.

Methods

We performed a retrospective cohort study of 16 patients, with myomas with pregnancy, who undergone caesarean section for obstetric indications. All 16 patients underwent myomectomy at the time of Caesarean section at SMIMER Hospital, Surat between August 2017 and July 2018. Patients' medical records were reviewed for demographic data, parity, and antenatal course, type of Caesarean section, size and location of the fibroids, blood loss, postoperative morbidity, and neonatal outcome. All of the women in the study fulfilled the following five criteria: 1) documented fibroid during the antenatal period by ultrasound or at surgery; 2) delivery by Caesarean; 3) no history of antenatal bleeding; 4) no other procedure at Caesarean apart from myomectomy, and 5) no evidence of pre-existing coagulopathy.

Informed consent was obtained from all patients preoperatively. Adequate blood and blood products were arranged preoperatively. Myomectomy was performed in the conventional fashion using an incision over the myoma, enucleating it, and obliterating the dead space in two to three layers using interrupted 1-0 Vicryl sutures (Ethicon Inc., New Jersey, USA). Myomas were removed after the baby had been delivered. The Caesarean incision was closed in single layer with 1 Vicryl sutures. High dose oxytocin was used intraoperatively and postoperatively, and some patients required additional uterotonic agents. Blood loss was estimated from suction aspiration, and from weighing mops, swabs and drapes used during surgery. Prophylactic antibiotics were administered to all the patients. Notes were made of the time taken for surgery, size, site and weight of myomas removed, blood loss, need for blood replacement, intra- or post-operative complications, and duration of hospital stay. In the follow up visit at 6 weeks after caesarean delivery, involution of the uterus was noted and ultrasound was done to find any remaining fibroids.

Results

During the study period from August 2017 to July 2018 sixteen cases of Caesarean myomectomy were performed.

Age of the sixteen women ranged from 20 to 35 years with a mean of 24.25 years. Two out of sixteen women were more than 30 years of age. 10 patients were primiparous and 6 were multiparous (Table 1). 10 women had a solitary myoma whereas six women had multiple myomas. Total 31 myomas were removed in these 16 patients, 25 were on the anterior uterine wall, 4 on the fundic region and 2 were large submucous myoma on the posterior wall. The largest myoma weighed 2 kg and the smallest 25g. Average weight was

Table 1: Demographic Profile of the Patients

(n=16)

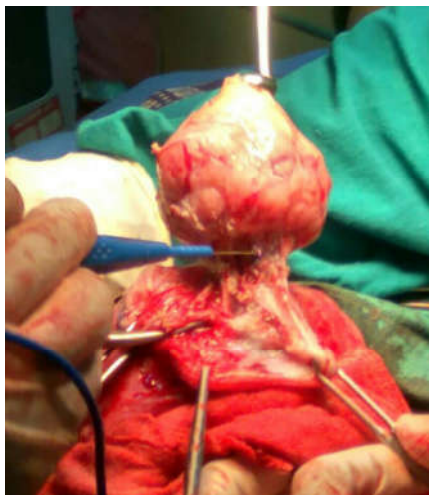
<i>Age</i>	
20_25	11
26_30	3
>30	2
<i>Parity</i>	
Primiparous	10
Multiparous	6
<i>Indications of LSCS</i>	
CPD	5
MSL	4
Previous LSCS	7

Table 2: Position, Number and Weight of Myomas

<i>Position of myomas</i>	
Anterior wall	25
Fundus	4
Posterior wall	2
<i>Number of myomas</i>	
Single	10
Three	3
Four	3
<i>Weight of myomas</i>	
<250 gms	22
250-500 gms	5
>500 gms	4

Table 3: Blood Loss and Hospital Stay

	Numbers
<i>Blood loss</i>	
<500 ml	6
500 ml-1000 ml	8
>1000 ml	2
<i>Hospital stay</i>	
3-4 days	10
5-7 days	4
>7 days	2

**Fig. 1:**

263.2g. None of the patients had any significant complications (Table 2).

The duration of hospital stay ranged between 4 and 9 days with a mean of 4.68 days. Women, who stayed for 5 days or more, had their babies admitted in NICU.

The intra operative blood loss of 6 patients was less than 500 ml, 8 patients between 500 ml-1000 ml and 2 patients had more than 1000 ml loss, in whom transfusion were given. The average intra operative blood loss was 590 ml and no patient required blood transfusion during surgery. In the postoperative

period 2 patients received blood transfusion (Table 3). No woman needed hysterectomy.

No woman required additional analgesics for Postoperative pain as it was similar to that seen after any caesarean delivery.

Three patients had pyrexia without sepsis for two days, with no further complications. After 6 weeks the uterus had involuted normally and on ultrasound screening, none of the sixteen women had any fibroid.

Discussion

Compared to the past, in recent years, we are getting more number of patients of pregnancy with fibroids because many women are delaying pregnancy till their late thirties, which is the time for increasing risk of myoma growth. Incidence of fibroid in pregnancy has increased due to the universal use of ultrasonography and thus improved the diagnostic capability of detecting even small myomas.

Majority of patients with pregnancy associated with myoma are asymptomatic and do not require treatment, with about 22-32% showing increased growth [3]. Many studies are published, which proves the failure of the conservative treatment

in symptomatic patients. A study conducted by Michalas et al reported uneventful term delivery of 16 patients in 18 cases of myomectomy performed during pregnancy. Larger fibroids (>5 cm) are more likely to grow during pregnancy and can lead to various complications of pregnancy like miscarriages, obstructed labour, malpresentations, pressure symptoms, pain due to red degeneration, preterm labour, preterm premature rupture of membranes, retained placenta, postpartum haemorrhage and uterine torsion [7]. A study conducted by Katz et al. found that 10–30% of women with myomas associated with pregnancy had one or more of the above listed complications [4]. Women with myoma had, upto 73% higher Caesarean section rates as compared to women with non myoma, mostly due to obstructed labour and malpresentations.

Myomectomy along with Caesarean must be considered by experienced obstetricians, wherever feasible, to avoid hysterectomy, with preservation of the uterus & its function, without compromising the mother's ability to bear more children. Exacoustos and Rosetti reported that in their series of 9 cases of Caesarean myomectomy, three required hysterectomy as were complicated by severe haemorrhage; hence, they recommended caution while making the decision to perform this procedure [5]. But it seems logical to perform Caesarean myomectomy as uterus in the immediate postpartum phase is better adapted physiologically to control haemorrhage than at any other stage in a woman's life.

Till recently, myomectomy was not recommended along with caesarean section due to increased incidences of haemorrhage, unless the myoma is pedunculated. But recent studies have described various techniques like uterine tourniquet, bilateral uterine artery ligation, and electrocautery to minimise blood loss at Caesarean myomectomy [6]. A study conducted by 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 8.1 cms compared to 5.7 cms in the controls. There was 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, it was concluded that myomectomy during Caesarean section is safe and can be performed by experienced obstetricians with minimal complications [7]. In another study by Burton et al., only 1 case had intra-operative haemorrhage of the reported

13 cases of myomectomy at Caesarean section, and they concluded it to be safe in selected patients [8].

Li Hui et al. conducted a large retrospective case-control study of caesarean myomectomy & studied the effectiveness, safety, complications, and its outcomes in Chinese women with myoma in pregnancy [9]. The study was conducted on 1,242 pregnant women with fibroids who underwent myomectomy during Caesarean section & was compared with 3 control groups: 200 pregnant women without fibroids (Group A), 145 pregnant women with fibroids who underwent caesarean alone (Group B), and 51 pregnant women who underwent Caesarean hysterectomy (Group C). No significant differences were noted between the groups in the mean haemoglobin change, the amount of haemorrhage, postoperative morbidity, or the length of hospital stay. This study also support the fact that Caesarean myomectomy if performed in well selected patients, is safe with minimal morbidities. Another study conducted by Hassiakos et al. [10], compared 47 pregnant women with fibroids who underwent Caesarean myomectomy with 94 pregnant women with myoma who had Caesarean section alone. Extra mean operating time of 15 minutes is added to the Caesarean section, when done along with myomectomy. No hysterectomy was done for PPH & no blood transfusion was required. The length of hospital stay was comparable in both groups so they support the fact that myomectomy during Caesarean section is a safe and effective procedure not associated with significant complications.

In our series of 16 patients, 14 lost less than 1 L of blood and there was no significant postoperative morbidity. The patient with a blood loss of 2000 ml had the largest myoma in this series (15 x 20 cm), had atonicity of the uterus necessitating a higher dose of oxytocin, carboprost, and blood transfusion. Despite the fact that majority of the patients have large myomas and 50% being intramurally located, no hysterectomy was required in any patient. Myomectomy added 15 minutes to the operating time and 1 day to the hospital stay but there was no significant postoperative complication. None of the patients had postoperative sepsis.

The limitations of this study are its retrospective nature and the small sample size.

Conclusion

In conclusion, in properly selected patient selection, Caesarean myomectomy is safe. However, the decision needs to be prudent and slender

according to type of myoma, other pre-requisites (blood bank facilities, etc. as in well-equipped tertiary settings) and the experience of the surgeon. Caesarean myomectomy can save hysterectomy & can have a positive bearing on future fertility.

Pre-requisites to minimise blood loss, like preoperative placement of uterine artery, uterotonic drugs, uterine artery ligation, uterine tourniquets, stepwise devascularisation, balloon catheters, and post-Caesarean uterine artery embolization would decrease the intra and post operative morbidities and significantly decrease the chance of hysterectomy. The time is right to recommend Caesarean myomectomy by experienced obstetrician wherever feasible, in selected patients in well-equipped tertiary settings.

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