Myomectomy at the Time of Cesarean Section: A Prospective Multicentre Study

Nargis Akhter[1], Firoza Begum[2], Nurjahan Begum[3], Saleha Begum Chowdhury[2], Nilufar Fatema[4], Selina Akhter Amin[5], Zahidul Hasan[6], Fazlur Rahman[7], Anwar Hossain[2]

[1]Asstt. Professor, [2]Professor, Consultant[3], of Gynae and Obstetrics, BSMMU, Shahbag, Dhaka, [4]Consultant (Cardiology), University Cardiac Centre, BSMMU, Shahbag, Dhaka, [5]Consultant, Department of Gynae and Obstetrics, BSMMU, Shahbag, Dhaka, [6]Department of Medicine, SSMCH, Dhaka, [7]Assoc. Professor (Interventional Cardiology), University Cardiac Centre, BSMMU, Shahbag, Dhaka.

Abstract:

Objectives: To assess the safety and efficacy of myomectomy during cesarean section. **Methods :** The study design was a prospective multicentre study done in three tertiary care hospitals in Dhaka city. The subject were 30 pregnant women underwent elective or emergency myomectomy during cesarean section. All cesarean section myomectomy were performed by consultant. Intra-operative and post-operative complications such as change in haematocrit, length of operation, blood loss were estimated. Length of hospital stay was also recorded. **Results :** 50 Fibroid of various sizes (2-6cm) were removed from 30 women. Fibroid were on the anterior uterine wall with most being subserous and intramural. Four patients had one unit of whole blood transfusion in post-operative period. No hysterectomy was done at the time of cesarean section. There was no significant frequency of blood transfusion; incidence of post- operative fever and duration of operation. The mean duration of post operative hospital study was 7.3±1.2 days. Two patients subsequently became pregnant, were also underwent repeated cesarean section in the study period. **Conclusion :** In selected cases myomectomy during cesarean section does not appear to result in an increased risk of intrapartum or short-term post-partum morbidity if performed by an experienced practitioner. Cesarean myomectomy is a safe surgical options with no significant complications.

Keywords : Cesarean section; myomectomy; uterine myoma.

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Introduction:

Uterine myomas are the most common type of benign tumor of female reproductive tract with an incidence ranging from 5.4 to 7.7% [1,2]. The size of a uterine myoma is greatly increased during the fertile period. This is associated with exposure to circulating estrogen[3]. The frequency of uterine myoma during pregnancy has been reported to be 0.05-5% [4]. Aproximately 10% of gravidas develop complications associated with myomas during pregnancy, such as pain, abortion, placental abruption, premature rupture of membrane (PROM), premature labor, post-partum hemorrhage and dysfunctional labor[5] .

In some instances cesarean myomectomy conversion to cesarean hysterectomy is necessary due to severe bleeding[6,7]. Recently it has been suggested that cesarean myomectomy is a safe surgical modality provided that it is performed in carefully selected patients[8-11]. Myoma is also a common problem in the women of reproductive age in Bangladesh. Accordingly this prospective study was under taken to evaluate the safety and efficacy of the cesarean myomectomy in a series of consecutive patients.

Correspondence: Dr. Nargis Akhter, FCPS, MS., House#294, Road#19/B, New DOHS, Mohakhali, Dhaka-1206

Methods:

In this prospective ongoing study, we identified 30 patients with documented uterine myoma who underwent cesarean myomectomy from January 2005 to December 2009 in three tertiary care hospitals in Dhaka city. All patients undergoing cesarean section with known uterine myoma were counseled and consented for a possible cesarean myomectomy.

Inclusion criteria were i) Detection of uterine myoma on prenatal ultrasonography or during cesarean section; (ii) No placenta previa or placenta abruption : (iii) No other procedures performed durring the cesarean section, except myomectomy (e.g. ovaian cystectomy). (iv) No coagulation disorder.

The uterine incision through which the fetus was delivered was sutured fallowing delivery. A transverse or longitudinal incision was then made over the uterine myoma. Electro cautery was used to minimize bleeding. Following removal

of myoma, the uterine incision was sutured in two or more layers using an absorbable suture (1-0 chomic). Specimens from the all removed myomas were send for histopathology. During the myomectomy and the 24 hours period following myomectomy an intravenous infusion of oxytocin was administered.

The informed consent was obtained from all selected patients. Permission from the concerned ethical committee of the respective centre was also taken regarding the involved patients after careful examination of the ethical aspects.

Statistical analysis was done by SPSS (Statistical package for social science) software for windows version 12.0. Data were expressed in number, percent or mean ±SD as appropriate.

Results:

Thirty patients had so far met the study criteria and had cesarean myomectomy during the 5 years period.

Table-I shows the obstetric characteristics (age, parity and gestational age) of the study patients. The age of the patients range was 20 to 40years and 40% of them were nalliparas. The gestational age range was 30-42 weeks.

Table-I

Demonstrate age, parity and gestational age of the study population (n=30)

characteristics	Number (n=30)	Percentage (%)
Age (year)		
20-25	5	16.67
26-30	16	53.33
31-35	6	20
36-40	3	10
Parity		
0	12	40
1-2	10	33.33
3-4	6	20
≥ 5	2	6.67
Gestational age		
<30-32	3	10
31-34	4	13.33
35-38	15	50
39-42	8	26.67

Table-II Previous cesarean section with other complication(s) was the common indications of the study patients.

Table-II

Showing the indications for cesarean section of the study patients (n=30)

Indication	Number	Percentage
Cepholo-pelvic disproportion (CPD)	4	13.33
Previous cesarean section with other complication (s)	12	40
Pregnancy induced hypertension (PIH)	5	16.67
Breech-presentation with other complication (s)	3	10
Prolonged first stage of labor	4	13.33
Cervical fibroids with obstruction	2	6.67

Table-III shows the number and type of fibroids removed. Most of the patients (30-32%) had only one or two fibroids. Most fibroids were 2-4cm in diameter. All the fibroids removed were located on the anterior wall of the uterus with majority (55.56%) being subserous. 20 (40%) were intramural fibroid were removed of which only one was pedanculated with a short stalk.

Table-III

Depicts number, type, size, location of fibroids

Parameters	Number (n=50)	Percentage(%)
Number of fibroids		
1	16	32
2	15	30
3	13	26
4	4	8
5	2	4
Type :		
Sub serosal	27	54
Intramural	20	40
Sub mucous	02	04
Pedunculated	01	02
Size:		
< 3 cm	35	70
≥ 3 cm and <6cm	10	20
≥ 6 cm	05	10
Location:		
Body	20	40
Fundus	17	34
Isthmus	01	2
Fundus + Body	11	22
Pedunculated	01	2

Table-IV There was no significant deference in the pre-operative and post-operative hemoglobin values. Incidence of post-operative fever was 4.2% and mean duration of operation was 60.2±18.3 minutes.

Table-IV

Showing outcome of the study patients (n=30)

Parameters	
Mean Pre-operative Hb (g/dh)	9.8 ± 1.4
Mean Post-operative Hb (g/dh)	8.8 ± 1.6
Frequency of blood transfusion (%)	1.1±1.2
Incidence of postoperative fever (%)	4.2
Mean duration of operation (min)	60.2±18.3

Frequency of blood transfusion was 1.1±1.2%. No patient had life threatening hemorrhage in our study and none had a hysterectomy as a result of excessive blood loss.

The mean duration of hospital stay after cesarean myomectomy was 7.3±1.2 days with a range of 04 to 10 days.

Two patients (6.67%) became pregnant after cesarean myomectomy and were under went repeat cesarean section during the study period.

Table-V

Demonstrate the duration of hospital stay of the study population (n=30)

Parameters	Number (n)	Percentage(%)
0-4	15	50
5-6	10	33.33
7-8	2	6.67
9-10	3	10
Mean days=7.3±1.2		

Discussion:

Uterine myoma are the most common type of uterine tumor; the incidence of myomas in fertile women has been reported to be 25-30%[12,13]. Histopathologicaly uterine myoma have been reported to occur in 77% of uteri obtained from total abdominal hysterectomy specimens [14].

The etiology of uterine myoma has been reported to be associated with various factors, such as age, genetic factors, hormones and ethnicity; however the exact etiology or pathophysiology under myomas remains unclear.

The incidence of uterine myomas has been reported to be three times higher in the black population than white or other ethnic populations[15].

It has also been reported that the growth of the uterine myomas is closely related to estrogen, growth hormone and progesterone[16].

Uterine myomas are rarely seen and their size are decreased in postmenopausal women. Based on there finding it has been suggested that estrogen plays a critical role in the growth of uterine myomas [13].

With respect to the distribution of myomas as a function of parity, Rice et al [17] reported that uterine myomas frequently develop in multiparas, but Gravind et al[18] noted that myomas are more prevalent in primiparas. In the study, uterine myomas were common in primi paras (40%).

Uterine myomas may be subserosal, intramural or submucosal or peduculated. In the current study, subserosal myomas had the heighest incidence (54%) as reported by other authors[8-10].

In general, most obestricians have been instructed not to perform uterine myomectomy during cesarean section, with the exception of pedunculated myomas because of risk of massive hemorrhage, and the possibility of hysterectomy. However, if the uterine myomas are not removed, the possibility of re-operation due to complications arising from myomas and the influence on future pregnancies persist. Because of these uncertainties several studies involving cesarean myomectomy have been conducted[8-11].

Several authors have suggested that uterine myomectomy can be performed both safely and successfully during cesarean section if performed by an experienced obstetrician in a carefully selected patient. Burton et al[11] performed myomectomy during cesarean section in 13 patients and reported successful recovery in 12 patients, one transfusion was performed intra operatively because of bleeding. The authors concluded that myomectomy during cesarean section is safe in carefully selected patients[11].

Ehigiegba et al[19]. performed cesarean myomectomy in 25 patients and reported no case of severe bleeding.

Our study shows that cesarean myomectomy may not be as dangerous as most obstetricians are trained to believe of 30 cases of cesarean myomectomy none had severe hemorrhage necessitating emergency hysterectomy. The blood loss was average. Only four patients needed post operative blood transfusion. Although this rate is more

than our average blood transfusion rate after an uncomplicated cesarean section, it is lower than the rate reported by most authors. We advocate the use of high dose oxytocin to obtain a sustained uterine contraction during myomectomy and for 12-24 hours after surgery as was used in this study. The average duration of hospital stay was 7.3±1.2 (mean) days.

Several authors have also recommended the optimal type of uterine myomas which could be treated by cesarean myomectomy. Roman and Tabsh[9] recommended that intramural myoma within the fundus should be avoided. Hassiakos et al[10] concluded that intramural myomas in the fundus, myomas located proximal to the fallopian tubes and myomas located in the cornua should be avoided. In the current study, cesarean myomectomies were performed with no restriction based on location. We performed cesarean myomectomy without damaging the fallopian tubes, ever in cases in which the myomas were located in the fundus or proximal to the fallopian tubes.

Conclusion:

This study has shown that cesarean myomectomy may not be as dangerous as generations of obstetricians and gynecologists have been trained to believe with adequate experience of routine myomectomy and the use of high dose oxytocin infusion, severe hemorrhage, which is the most serious complications can be curtailed. Cesarean myomectomy can be successfully performed when conducted by an experienced practitioner.

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