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Original Article

Myomectomy at Cesarean Section: Descriptive Multicentre Study

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Abstract

Background: In the tropics, leiomyoma are commonly encountered in women of the reproductive age group, although they are mostly asymptomatic. Surgery for uterine fibroid at caesarean section has remained controversial.

Objective: The study design was a prospective multicentre study to analyse the clinical outcome of women that had selective caesarean myomectomy in a medical college and private hospitals in Dinajpur,Bangladesh.

Method: Thirty women that had selective myomectomy at caesarean section between January 2004 and February 2012 were analysed.

Results: The patients mean age was 32.6 years with age range of 21–39 years. Of the 30 patients, 21 (70 %) were Primigravida, 27 (90%) of the patients had caesarean section at term, 2 (6.6%) and 1 (3.3%) of the patients were preterm and post term respectively. A significant number of the patients 28 (93.4%) had elective caesarean section and the remaining 2 (6.6%) patients had emergency caesarean section. The 3 leading indications for caesarean section among the patients were malpresentation/abnormal lie 23%, uterine fibroids 26.6%, and a previous caesarean section with complication in 20% of the patients. Indications for myomectomy at caesarean section were fibroid in lower uterine segment in 18 (60%) patients, pedunculated uterine fibroid in 8(26.6%) patients and anterior subserous fibroid in 4 (13.3%) patients. Intraopertively in the 30 patients, 15 (50%) had fibroid(s) removed only in the lower uterine segment; while 7 (23.3%) patients had removed in the upper uterine segment and 8(26.6%) had both upper and lower uterine segments. A total of 75 fibroids were removed in the 30 patients, of which 40 (53.3%) were subserous/pedunculated, 25 (33.3%) intramural and 10 (13.3%) were submucous. Of the75 fibroids, 51 (68%) were between 6 to 10 cm size. Sixteen (53.3%) of the 30 patients lost between 751 to 1000 ml of blood intraoperatively with an average of 860 ml of blood loss. Five (16.6%) ofthe 30 patients had blood transfusion due to anaemia. Other complications encountered were puerperal pyrexia and sepsis in 2 (6.6%) patients. There was no maternal and perinatal mortality.

Conclusion: Selection of patients for caesarean myomectomy reduces blood loss, anaemia and other complications.

Keywords: Myomectomy; Uterine fibroids; Caesarean section.

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Introduction

Uterine leiomyoma is found in approximately 2% of pregnant women.[1] Pregnancy complicating fibroid and fibroid complicating pregnancy are not uncommon presentations to obstetrician practicing in Bangladesh. During pregnancy, uterine

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leiomyoma are usually asymptomatic but may be occasionally complicated by red degeneration and an increased frequency of spontaneous abortion, preterm labor, premature rupture of fetal membranes, antepartum hemorrhage, malpresentations, obstructed labour, cesarean section and postpartum hemorrhage.[2-4] Aproximately 10% of gravidas develop complications associated with myomas during pregnancy.[5] Removal of uterine fibroid at caesarean section is not routinely done, because the procedure is often complicated by severe haemorrhage.[6] Caesarean myomectomy when done is usually for pedunculated fibroids. Some authors are of the opinion that all anterior uterine fibroids should be routinely removed, should caesarean section be the mode of delivery.[7,8] Myomectomy as a separate operation during cesarean ,increases the hemorrhage by about 10%.[8] However many a times while doing a cesarean section, one is faced with a myoma in the lower uterine segment. It is recommended that a lower uterine transverse incision be made through the myoma But the policy of doing a myomectomy during cesarean to avoid second surgery may not always prove to be wise. Some reports have shown that myomectomy during cesarean delivery can be safe.[7,9,10-14] Recently it has been suggested that cesarean myomectomy is a safe surgical modality provided that it is performed in carefully selected patients.[9,13,15,16] We report here thirty such cases where myomectomy was done at the time of cesarean section.

Materials and Methods

This is an analysis of thirty patients that had selective caesarean myomectomy between January 2004 and February 2012. The patients were either managed at the Dinajpur Medical College Hospital,Dinajpur or at the Private Hospital, Dinajpur, Bangladesh.The case files were scrutinised and analysed for all necessary information. Data on age, parity, gestational period of the pregnancies, 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 other procedures performed during the cesarean section, except myomectomy (e.g. ovaian cystectomy). (iii)) Nocoagulation disorder. indications for caesarean section and caesarean myomectomy were retrieved. Other information retrieved were timing of the surgery, location,type and sizes of fibroids removed, estimated blood loss at surgery, need for blood transfusion and complications encountered. In all patients studied, the biggest fibroid measured more than 10 cm in diameter.The uterine incision through which the fetus was delivered was sutured fallowing delivery. To perform myomectomy at caesarean section, a Foley's catheter tourniquet was applied to the base of the broad ligament to compress both the uterine arteries and ovarian arteries in the infundibulopelvic fold. 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). Drain tube was given which was removed after 24 hours.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.

Results

Thirty patients had selective myomectomy at caesarean section during the study period. The mean age of the patients was 32.6years. Tweenty three patients (76.6%) were less than 35years and 7 patients (23.4%) were above 35 years. A significant number of the patients 21(70%) were primigravidae. Tweenty seven (90%) of the pregnancies were term pregnancy, 2 (6.6 %) were preterm between gestational age of 34 weeks and 35 weeks and one was post term at gestational age of 43 weeks. (Table-1).

Tweenty eight (93.4%) patients had elective surgery and 2(6.6%) had their surgery done on emergent basis. In the subgroup that had emergency surgery, 1 was in labour, 1had preterm rupture of foetal membrane with abnormal lie.The 3 leading

indicationsfor caesarean section were malpresentation/ abnormal lie in 7 patients (23%), uterine fibroid in 8 patients (26.6 %) and one previous caesarean section were 6 patients (20%). Fibroids in the lower uterine segment was the commonest indication for selective caesarean myomectomy in 18 (60%) of the patients (Table-2).

Table-1: Age, parity and gestational period of patients (n=30)

Variables	Number	%
Age		
26–30	11	36.6
31–35	12	40
36–40	5	16.6
41–45	2	6.6
Parity		
0	21	70
1	7	23
2	2	6.6
Gestational period		
Pre-term	2	6.6
Term	27	90
Post-term	1	3.3

Table-2: Indication for caesarean section and selective caesarean myomectomy.

Variables	Number	%
Timing of surgery		
Elective	28	93.4
Emergency	2	6.6
Indication for caesarean section		
Malpresentation (Breech)/Abnormal lie	7	23
Uterine fibroids	8	26.6
Elderly primigravidae with sub fertility	5	16.6
One previous C/S	6	20
Pre-term rupture of membrane	2	6.6
Placenta Previa	2	6.6
Indication for caesarean myomectomy		
Fibroid in lower uterine segment	18	60
Pedunculated fibroid	8	26.6
Anterior subserous fibroid	4	13.3

Table-3 shows that 15 patients (50%) had fibroid removed in the lower uterine segment, 7 patients (23.3%) in upper segment and 8 patients (26.6%) from both the upper and lower uterine segment. The subserous and pedunculated fibroids removed from the upper and lower uterine segment accounts for 53.3% of the fibroids removed. The intramural fibroids (33.3%) and submucous fibroids (13.3%) were removed from both segment. Most (68%) ofthe fibroids removed were mainly between 6 cm and 10 cm.

Table-3: Location, types and sizes of fibroid removed.

Variables	Number	%
Location of fibroid removed (n=30)		
Lower uterine segment	15	50
Upper uterine segment	7	23.3
Both upper and lower segments	8	26.6
Types of fibroid removed (n=75)		
Subserous/Pedunculated	40	53.3
Intramural	25	33.3
Submucous	10	13.3
Sizes of fibroid removed (n=75)		
3-5 cm	15	20
6–10 cm	51	68
Greater than 10 cm	9	12

The mean blood loss at surgery was 860 ml. None of the patients estimated blood loss at surgery was less than 500 ml or greater than 1,000 ml. Twenty (84.4%) patients did not need transfusion.The maternal morbidities encountered were anaemia with blood transfusion in 5(16.6%) patients and puerperal pyrexia with sepsis in 2 (6.6%) of the 30 patients. A total of 32 babies weredelivered, 2 patients had twin delivery. There was no maternal mortality and perinatal mortality. (Table-4)

Table-4: Estimated blood loss at surgery, blood transfusion and complications (n=30)

Variables	Number	%
<500 ml	0	0
501–750 ml	9	30
751–1000 ml	16	53.3
^ 1000ml	5	16.6
Blood transfusion		
Yes	5	16.6
No	25	84.4
Complications		
Anaemia and blood transfusion	5	16.6
Puerperal pyrexia and sepsis	2	6.6

The duration of hospital stay ranged between 4 and 10 days with a mean of 5 days. The time taken for surgery ranged between 40 and 60 minutes with mean time 50.4 min.Two patient had pyrexia with sepsis for two days, with no further complications. Postoperative pain was similar to that seen after any cesarean delivery and no woman required more analgesics. After 6 weeks

the uterus had involuted normally and on ultrasound screening, none of the thirtieth women had any fibroid. Two patients (6.6%) became pregnant after cesarean myomectomy and were under went repeat cesarean section during the study period.

Discussion

Uterine myomas are observed in pregnancy more frequently now than in the past because many women are delaying child bearing till their late thirties, which is the time for greatest risk of myoma growth. Also the use of ultrasonography has improved the diagnostic capability of detecting small myomas and has increased our knowledge of myomas in pregnancy.

Uterine myoma are the most common type of uterine tumor; the incidence of myomas in fertile women has been reported to be 25-30%.[17,18] Histopathologicaly uterine myoma have been reported to occur in 77% of uteri obtained from total abdominal hysterectomy specimens. [19]

The incidence of uterine myomas has been reported to bethree times higher in the black population than white or other ethnic populations.[20] It has also been reported that the growth of the uterine myomas is closely related to estrogen, growth hormone and progesterone. [21]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.[18]

The mean age in this study group was 32.6 years with majority (40%) of the patients under thirty-five years. The patients were mainly primigravidae (70%). Which is corresponds with the study of Gravind et al[22], and 72.7%was found in the study of. Adesiyun,et all.[23] commonest indication for performing myomectomy during caesarean section in this study was lower uterine segment fibroids. This was to allow a lower uterine segment incision for the delivery of the baby, thus avoiding a classical incision. This also similar to other study.[23]

Uterine myomas may be subserosal, intramural or submucosal or peduculated. In the current study,subserosal myomas had the heighest incidence (53.3%) as reported by other authors. [24]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.

The average estimated blood loss was 860. mls, which is similar to 876 ml and 806.8 reported in a series of patients that had routine anterior uterine wall caesarean myomectomy.[7, 23]

In our study group, 16.6% of the patients required blood transfusion. This percentage is similar compared with 20% of the patients that required blood transfusion in the series that did routine caesarean myomectomy for all anterior fibroids. [7]But in the study of Adesiyun, et al. was 9.1%.[23] Ehigiegba et al[7] 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 five patients needed postoperative blood transfusion

In our study 6.6% patient was developed puerperal sepsis and pyrexia but in the syudy of Adesiyun, et all. was 9.1%.[23] Kwawukume[8] reported caesarean myomectomy in 12 women, without any complications. Their mean operative time was 62.08 minutes, which is similar to that found in our study. Several authors have suggested that uterine myomectomycan be performed both safely and successfully during cesarean section if performed by an experienced obstetrician in a carefully selected patient. Burton et al[16] performed myomectomy during cesarean section in 13 patients and reported successful recovery in 12 patients, Enucleation of the fibroid is technically easier in gravid uterus owing to greater looseness of the capsule.[8] Retraction of uterine muscles is enhanced by oxytocic agents to help arrest the hemorrhage.

Fig:1 Last patient in this study.

Conclusion

Myomectomy during cesarean section is a safe procedure. Cesarean myomectomy can be successfully performed when conducted by an experienced gynaecologist.

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