ORIGINAL ARTICLE

Safety of routine caesarean myomectomy

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Abstract

The study was done to evaluate the safety and clinical outcome of routine caesarean myomectomy. This was a prospective descriptive study done in Obstetrics & Gynaecology department of Khulna Medical College Hospital & Sadar Hospital, Satkhira and two private clinics in Khulna city. Over a period of 4 years from July, 2009 to June, 2013, twenty one cases of caesarean myomectomy were presented. Our technique comprised of infiltration of vasoconstritive agent (ceprecin) before nucleation of myoma, myoma cavity accomplished by using "U" stitches of myometrial closure, routine use of oxytocin in post operative period for 24 hours. It was seen in this study that the mean age of the patients was 31.7 years and most of the cases (71.43%) were primigravida. Caesarean myomectomy done in term pregnancy was 85.71%. Elective surgery was done in 85.71% and emergency surgery was 14.29%. Two leading indications for caesarean section were malpresentation/ abnormal lie in 42.85% and uterine fibroid in 23.81%. Fibroid in lower uterine segment for selective myomectomy was 61.90%. Maximum (21,65.63%) fibroids were removed from the lower uterine segment and 22 (68.75%) of the fibroids were between 5 cms to 10 cms in size. The morbidities encountered were anaemia with blood transfusion in 2 (9.52%) and post partum pyrexia in 1 (4.76%) patients. No woman needed hysterectomy. Caesarean myomectomy may be done routinely by experienced surgeon and routine use of vasopressin into myoma capsule to combat uterine atony & severe bleeding.

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Introduction

Leiomyoma in pregnancy is not an uncommon entity. According to the various studies, the incidence of myomas in pregnancy is estimated to be 2-4%.[1-3] So; myomectomy may be needed in-some cases of caesarean delivery. Myomectomy is a surgical procedure which is usually not performed during caesarean section. This dislike is because of the increased association with high risk of haemorrhage and difficulty in securing haemostasis.[4] To minimize blood loss, various techniques, such as bilateral ascending uterine artery liquation or tourniquet use, electric cauterization or laser coagulation of vessels, and "U" stitches of myometrial closure during myomectomy have been used.[5-7] Above all, certain studies have regarded this as an effective and safe procedure that is not associated with much bleeding or other complications.[8]

There is very little wide scale study on routine caesarean myomectomy. The aim of this study was to find out the safety & the clinical out come of routine caesarean myomectomy. It was also to compare our findings with the published results of the other studies that advocate routine caesarean myomectomy for all anterior uterine fibroid, So that our study may encourage our obstetrician to do routine caesarean myomectomy though it had long been contraindicated.

Materials and Methods: This prospective descriptive study was done in Obstetrics & Gynecology department of Khulna Medical College Hospital & Sadar Hospital Satkhira and two private clinics in Khulna city, over a period of 4 years from July, 2009 to June, 2013. During this period, we did myomectomy during caesarean section in twenty one women who were diagnosed to have fibroids by ultrasound in the antenatal period. Proper evaluation of location, number, size, and position of fibroids was done. All were counseled about the possible morbidities and consent was taken for hysterectomy for the possibility of intrapartum & postpartum haemorrhage. Most of the cases had caesarean section at term for varieties of obstetrics indications. Inclusion criteria were diagnosis of uterine myoma on antenatal ultrasonography or during caesarean section, no antepartum

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haemorrhage due to placenta praevia or placental abruption and no bleeding disorder.

We use general anesthesia with endotracheal intubation and spinal anesthesia, which were selected according to the consultation of anesthetist. The surgical technique involved infiltration with a vasoconstrictive agent (cepresin) prior to performing a linear incision on the most prominent part of the myoma. After the enucleation of the myoma, myoma cavity accomplished by using stitches of myometrial closure with number 1-0 caliber vicryl. The serosa was closed with continuous same suture material. A deliberate policy was evolved to proceed with myomectomy during caesarean section if the myoma was large and presented in the line of incision.

Oxytocin infusion was started after delivery of the baby and continued for 24 hours. Antibiotics and analgesics were given routinely. Post operative blood transfusion was given according to the level of Hb. Thereafter, outcome considered included the time taken for surgery, weight of myoma removed, intra operative blood loss (counting the amount of blood in the suction bottle and wet mop count), and the need for blood transfusion, intraoperative and post operative complication and duration of hospital stay. In the follow up visit, 6 weeks after caesarean delivery, involution of uterus was noted and ultrasound was done to find out any remaining fibroid

Results:

Twenty one patients had selected myomectomy at caesarean section during study period. Table-I showed the distribution of mothers according to the age and obstetric history. The mean age of the patients was 31.7 years. 14 patients (66.66%) were less than 35 years and 7 (33.33%) patients were 35 and above 35 years. A significant number (71.43 %) of patients were primigravida and only (4.76%) were third gravid. Eighteen (85.71%) patients were term pregnancy and 3 (14.29%) were preterm between gestational age of 35 weeks and 36 weeks.

Table I

Demographic variables (n=21)

Variables	Numbers	Percentage
Age :		
20-25	2	9.53
26-30	7	33.33
31-35	6	28.57
36-40	5	23.81
41-45	1	4.76
Parity :		
0	15	71.43
1	5	23.81
>=2	1	4.76
Gestational age :		
Preterm	3	14.29
Term	18	85.71

Table II

Indication for caesarean section & selective caesarean myomectomy

Variables	Number (21)	Percentage
Types of surgery :		
Elective	18	85.71
Emergency	3	14.29
Indication of caesarean section :		
Malpresentation/Abnormal lie	9	42.85
Uterine fibroid	5	23.81
Pervious C/S with complication	2	9.52
Preterm rupture membrane	3	14.29
Elderly primi with sub fertility	1	4.76
Placenta praevia	1	4.76
Indication of caesarean myomectomy :		
Fibroid in lower uterine segment	13	61.90
Pedunculated fibroid	3	14.29
Uterine body fibroid	5	23.81

Table-II showed the indication of caesarean section and selective caesarean myomectomy. Eighteen (85.71%) patients had elective surgery and 3 (14.29%) had their surgery on emergency basis with preterm rupture of membrane with abnormal lie. The two leading indications of caesarean section were malpresentation/abnormal lie in 9 patients (42.86%) and uterine fibroids in 5 patients (23.81%). Fibroids in lower uterine segment was the commonest indication of selective caesarean myomectomy in 13 (61.90%) of the patients.

Table III

Characteristics of fibroid removed (n=32)

Variables	Number	Percentage
Location of fibroid removed:		
Lower uterine segment	19	59.38
Upper uterine segment	10	31.25
Both upper and lower	3	9.37
Types of fibroid removed :		
Sub serous/pedunculated	19	59.38
Intramural	9	28.12
Sub mucous	4	12.50
Size of fibroid removed :		
5-10 cm	22	68.75
>10cm	10	31.25

Table-III showed the characteristics of fibroids removed from the uterus during caesarean section. Maximum 19 (59.38%) fibroids were removed from the lower uterine segment. The sub

serous / pedunculated fibroids removed from the upper and lower uterine segment accounts for 59.38% of the fibroid removed. The intramural (28.12%) and sub serous (12.50%) were also removed from the upper and lower uterine segment. Most of the fibroids (68.75%) removed were mainly between 5cms and 10 cms.

Table IV

Post natal outcomes of patients after caesarean myomectomy

Variable	Number (21)	Percentage
Duration of surgery		
<45 min	4	19.05
45-60 min	14	66.66
>60 min	3	14.29
Estimated blood loss at surgery		
<500 ml	3	14.29
501-750 ml	15	71.42
>750 ml	3	14.29
Blood transfusion		
yes	2	9.52
no	19	90.48
Complications		
Anemia with blood trans	2	9.52
Puerperal pyrexia	1	4.76

Table-IV shows different variables of postnatal out come of patients after caesarean myomectomy. Most of the cases (66.66%) time taken for doing surgery was 45min -60 min. A significant number of cases (71.42%) estimated blood loss during surgery was 501 ml -750 ml. Only 3 cases (14.29%) blood loss was more than 750 ml. The maternal morbidities encountered were anemia with blood transfusion in 2 (9.52%) patients and puerperal pyrexia with sepsis in 1 (4.76%) patient. No woman needed hysterectomy.

Discussion:

Uterine myomas are observed in pregnancy more frequently now a days 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. Use of ultrasound has improved the diagnostic capability of detecting small myomas and has increased our knowledge of myoma in pregnancy.[9] Caesarean myomectomy was practically absent from the obstetric literature until the last decade.[10] This was due to high risk of haemorrhage associated with this procedure and need for blood transfussion.[11] More recently; some authors have advocated routine removal of all anterior wall uterine fibroid during caesarean section.[10]

The mean age in our study group was 31.7 years with majority (66.66%) of the patients under thirty five years which was similar to the result of Nargis Akhter et al.[12] The patients were mainly primigrivida (71.43%). Adesiyun et al. reported 22 cases of caesarean myomectomy where the mean age was 31.5 years with 72.8% of the patients under thirty five years and 72.7% of the patients were primigravida, which were more or less similar to our study.[13] Kant Anita et al. and Ahikari sudhir et al. had reported the similar result where majority of the patients were term pregnancy with good perinatal outcome.[4,9]

The commonest indication for performing myomectomy during caesarean section in this study was lower uterine segment fibroid (61.90%) that was also compatible to the findings of Adesiun et al. and Kant Anita et al. and Ahikari sudhir et. al. studies.[4,9,13] Howkins and Stallworthy advocated caesarean myomectomy in selected cases.[14] This is particularly so when the myoma is situated anteriorly in the lower uterine segment on the proposed line of incision. In these cases, after mobilizing the bladder, the myoma is enucleated by a transverse incision on its surface and the uterus is opened by an incision through the posterior wall of the capsule. This can avoid a classical uterine incision that suggests bilateral tubal ligation in most cases which affect fertility subsequently.

In our study, in one case, three myoma of average 160 gm were removed and in other case a large myoma of about 500 gm was removed prior to the delivery of the baby. Omar et al. reported two cases of large myoma situated lower segment requiring myometomy before delivery of the baby during LSCS.[11] Cobellis et al. had reported removal of multiple fibroid by electrocautery during LSCS. We removed five fibroids in one case.[15]

Most of the fibroids are asymptomatic and 80% would actually remain constant or shrink in size. Complication' such as miscarriage, preterm labor, abruption, intrauterine growth retardation, malpresentation, and increased operative deliveries have all been reported with pregnancies complicated by fibroid in the most extreme cases degeneration or torsion of fibroid have known to occur.[16] The ante partum complication rate varied between 10-40% Fortunately only one of our patients had complained of mild per vaginal spotting in the first trimester that resolved as the gestation progressed.[17] But one complication of

pain attributable to red degeneration was noted in our patient for which she was admitted once and resolved conservatively. All the patients in this study were discharged in the eight post operative days; this was comparable with the study that advocated routine caesarean myomectomy for all anterior wall fibroid.[18] The average estimated blood loss was 545 ml which was less than 876 ml reported in a series of patients that had routine anterior uterine wall caesarean myomectomy but similar to the findings of HH Tan et al. which was 567ml.[18,19] It was due to use of vasopressin (cepresin) prior to enucleation of myoma. In this study, none of the patients had hysterectomy on account of haemorrhage but Hassan et al. in their series reported three hysterectomies that undergone caesarean myomectomy.[20]

The average time taken to perform caesarean myomectomy was 53 mins which was comparable to the results of Ahikari et al. & Nargis Akhter et al.[4,12] In our study group 9.52% of the patients required blood transfusion and these patients had their caesarean section on account of placenta praevia. This percentage is low compared with 20% of the patients that needed blood transfusion in the series that did routine caesarean myomectomy for all anterior fibroid.[18] Most of our patients had elective surgery which could be responsible for the low incidence of complication like anaemia and pyrexia. In the study that advocated routine anterior uterine wall caesarean myomectomy, the most common morbidity was anaemia which occurred in 60% of the patients as against 9.52% reported in our study.

Our study also showed that caesarean myomectmy was not as dangerous as generation of obstetrician has been trained to believe. Though myomectomy during pregnancy is still not encouraged, caesarean myomectomy is now a viable option. Enucleation of fibroid is technically easier in gravid uterus owing to greater looseness of the capsule.[10] Retraction of uterine muscles is enhanced by oxytocic agents to help in arresting haemorrhage. Interestingly caesarean myomectomy, which is said to be a cost effective procedure in a resource constrain setting.[21] It also obviates the need for interval myomectomy and decreased complication associated with fibroid in subsequent pregnancies.[22] The scar integrity for caesarean myomectomy has been shown to be better than that following interval myomectomy, when assessed with serial ultrasound scan in subsequent pregnancies and subsequent caesarean section.[23]

Conclusion:

Our own experience from this study suggest that caesarean myomectomy may be done routinely, as it may not be as dangerous as our fore generations have been trained to believe. The operation should be done by an experienced surgeon alongwith routine use of vasopressin into the myoma capsule to combat uterine atony and severe bleeding. Further randomized clinical trials are still needed to resolve the barriers of performing a routine caesarean myomectomy.

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