CAESAREAN MYOMECTOMY IN KANO NORTHERN NIGERIA

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Abstract

Objective*: To evaluate the feasibility and outcome of caesarean myomectomy.*

Patients and Methods*: A retrospective study of cases of caesarean myomectomy at the Aminu Kano Teaching Hospital, Kano, Nigeria, a tertiary health facility in a developing country between January 1998 and December 2004.*

Outcome Measures*: Age and parity of the women, number, size and location of fibroids, duration of operation, estimated blood loss, postoperative complications and duration of hospital stay.*

Results*: Sixteen cases of caesarean myomectomy were done during the study period using the tourniquet method. It involved the enucleation of single and multiple myomas during lower segment caesarean section (LSCS).The mean age of the women was 29.0 + 1.90 years. The mean duration of caesarean myomectomy was 54.75 + 4.57 minutes, while the mean duration of LSCS only in our unit was 42.0 + 3.16 minutes. There was no statistically significant difference in the mean duration of operation between the two groups (t = 15.94, df = 1550, P > 0.05). The mean blood loss during caesarean myomectomy was 460.31 + 81.74mls, while the mean blood loss during LSCS in our unit was 355.0 + 60.25mls. There was no statistically significant difference in the mean blood loss between the two groups (t = 0.85, df = 1550, P > 0.05). The postoperative period was uneventful in all the cases. They were all discharged on the 6th postoperative day. They were followed up until 3 months post-operation in the postnatal clinic.*

Conclusion*: Caesarean myomectomy seems to be feasible and safe in selected cases when a tourniquet is applied.*

Keywords*: Caesarean myomectomy, outcome, uterine tourniquet,Kano, Nigeria.*

Introduction

Myomectomy at the time of caesarean section is traditionally discouraged because of the risk of haemorrhage.[1-6] Bonney, the pioneer of myomectomy wrote 'it is tempting for the adventurous and sympathetic surgeon to condense the operation of lower segment caesarean section (LSCS) and myomectomy into one undertaking and save his patient the ordeal of a second admission to hospital. This kindly, but misguided, policy we heartily deprecate'[5]. Since then, many authors including pupils of Bonney have advocated caesarean myomectomy in selected cases.[5-12]

It has been reported by some authors that a uterus in the immediate postpartum phase is better adapted physiologically to control haemorrhage than in any other stage in a woman's life, because the ability of the uterus to contract and retract following the delivery of the baby could effectively reduce the bleeding from the myomectomy bed. [6,12] Also some authors proposed that it is safe to join myomectomy with caesarean section because of low number of complications after this operation.[13]

This study was designed to evaluate the feasibility and outcome of caesarean myomectomy in our unit.

Patients and Methods

This is a case series of 16 cases of caesarean myomectomy which were carried out in our unit between January 1998 and December 2004.

In 12 cases, uterine fibroid in pregnancy was diagnosed pre-operatively by ultrasound scan, while in 4 cases they were incidental findings during caesarean section. Caesarean section was done only

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Table 1: Characteristics of the women and outcome of caesarean myomectomy

Serial Number	Age (years)	Parity	Number of fibroids	Location of fibroids	Size of fibroids (cm)	Duration of operation (mins)	Estimated blood loss (`mls)
1	32	0^{+0}	3	2 UUS 1 LUS	2 x 4 5 x 5 2 x 3	58	480
2	28	0^{+0}	1	LUS	3 x 5	54	400
3	26	0^{+0}	1	UUS LUS (Huge)	20 x 18	62	700
4	29	0^{+0}	1	Subserous pedunculated	9 x 5	48	350
5	30	0^{+0}	2	LUS	2 x 3 4 x 5	60	430
6	28	0^{+0}	1	UUS	2 x 5	57	450
7	25	0^{+0}	1	UUS	5 x 4	55	470
8	29	0^{+0}	5	LUS 3 UUS 2	4 x 3 2 x 3 3 x 3 3 x 4 2 x 5	61	500
9	30	1^{+0}	1	UUS	8 x 7	56	485
10	31	0^{+0}	1	UUS	6 x 4	54	480
11	27	0^{+0}	1	LUS	5 x 4	53	440
12	30	1^{+0}	1	UUS	10 x 12	59	490
13	28	0^{+0}	1	LUS	4 x 6	50	390
14	31	0^{+0}	2	LUS UUS	2 x 4 5 x 6	52	520
15	30	0^{+0}	1	LUS	3 x 5	49	430
16	30	0^{+0}	1	UUS	2 x 6	48	380
Mean (caesarean myomectomy)	29.0 $\pm$ 1.90	-				54.75 $\pm$ 4.57	460.31 $\pm$ 81.74
Mean (LSCS only)						42.0 $\pm$ 3.16	355.0 $\pm$ 60.25
Test and P-value						t = 15.94 df = 1550 P > 0.05 (N/S)	t = 0.85 df = 1550 P > 0.05 (N/S)

LUS = Lower uterine segment
UUS = Upper uterine segment
N/S= Not statistically significant

for obstetric indications, and the decision to do a myomectomy was taken, after a careful intra-operative examination to determine the feasibility of the procedure.

The inclusion criteria were women with (i) uterine fibroids which could be enucleated through the LSCS incision by tunneling or through an anterior incision, (ii) no previous uterine surgery e.g. previous caesarean section or myomectomy, (iii) packed cell volume $\geq$30% (iv) no risk of postpartum haemorrhage (v) no associated medical disorders in pregnancy (vi) two pints of crossmatched blood available (vii) parity less than 2.

General anaesthesia and a midline subumbilical incision were used in all the cases. The babies and placentae were delivered before embarking on myomectomy, except in two cases where small uterine fibroids were along the incision line when a transverse incision was made over the uterine fibroids to enucleate them after mobilizing the bladder. The LSCS incision to open the uterine cavity was done through the posterior wall of the fibroid bed.

In the other cases, after mobilizing the bladder and delivery of the baby and placenta, a tourniquet was applied round the lower uterine segment below the LSCS incision and the fibroids, to achieve mechanical vasoconstriction on the ascending uterine arteries bilaterally, and a tourniquet time was kept to prevent irreversible damage to the uterine muscle cells. [2] There was no case in which the procedure of myomectomy exceeded 30 minutes, so there was no incident of releasing the tourniquet and reapplying it after 5 minutes to re-establish blood flow to the uterine muscles and prevent irreversible cell

damage.

Following application of the tourniquet, the conventional technique of myomectomy was employed to remove the uterine fibroids. Only the anterior approach was used, which involved tunneling through the LSCS incision or an anterior incision was made to enucleate the fibroids and obliterate its bed using 1-0 vicryl sutures. Lateral and posterior incisions were avoided.

Following myomectomy, the tourniquet was released and haemostasis was secured. The LSCS incision was closed in two layers with continuous 1-0 vicryl sutures. It was ensured that the patient's systolic blood pressure was more than 90mmHg before closing the anterior abdominal wall. The post-operative management was carried out according to our routine schedule, and they were all discharged home on the 6th day post-operation.

The outcome measures were age and parity of the women, number, location and size of the fibroids, duration of operation, estimated blood loss, post-operative complications and duration of hospital stay. The blood loss was estimated from the suction machine bottle, mops, swabs and draping. Haemorrhage was defined as a fall in packed cell volume of 10 units or more between the pre-operative and post-operative levels, or any patient that required intra-operative blood transfusion.[6]

The data obtained were analyzed using frequencies, mean and standard deviation and recorded in tabular forms. Student t-test was used for comparison of the means for statistically significant difference. A P-value of <0.05 was considered the probability level to reflect significant differences.

Results

During the period of study there were 1552 caesarean deliveries, and caesarean myomectomies were done in 16 of these cases.

The age range of the women was between 25-32 years, with a mean age of 29.0 $\pm$ 1.90 years. Majority of the women (87.5%) were primigravidae, while 12.5% were Para 1, and none was Para 2 and above.

In five cases the fibroids were confined to the lower uterine segment, while in six cases they were only in the upper uterine segment. They involved the upper and lower segment in four cases, and there was one case of subserous pedunculated fibroid in the fundus of the uterus. The smallest myoma was 2 x 3cm in size, while the largest was 20 x 18cm. There were 12 cases of solitary uterine fibroids and 4 cases of multiple uterine fibroids. A maximum of 5 fibroids were enucleated in one case.

The mean duration of caesarean myomectomy was 54.75 $\pm$ 4.57 minutes, while the mean duration of LSCS only in our unit was 42.0 $\pm$ 3.16 minutes. There was no statistically significant difference in the mean duration of surgery between the two groups ($t = 15.4$, $df = 1550$, $P > 0.05$).

The mean blood loss in caesarean myomectomy was 460.31 $\pm$ 81.74mls, while the mean blood loss in LSCS only in our unit was 355.0 $\pm$ 60.25mls. There was no statistically significant difference in the mean blood loss between the two groups ($t = 0.85$, $df = 1550$, $P > 0.05$).

The estimated blood loss was between 350 to 700mls, with the largest quantity in the case of the huge uterine fibroid that measured 20 x 18cm. None of the women had blood transfusion or a difference of up to 10 between their pre-operative and post-operative packed cell volume which was checked on the second day post-operation.

All the fibroids that were removed were anterior fibroids. The post-operative period was uneventful in all the cases. They were followed up in the postnatal clinic up to three months post-operation. Fourteen women among the cases subsequently became pregnant and had successful vaginal delivery, while in three cases repeat caesarean section was done for cephalopelvic disproportion.

Discussion

Hysterectomy is the definitive treatment of uterine fibroid[11-14]. In women of low parity who have not achieved their reproductive desires, myomectomy is a more acceptable alternative[13]. This explained why caesarean myomectomy was carried out in women of low parity, mainly nulliparae in this study.

The age range of the women was between 25 32 years, because uterine fibroids is uncommon in women who are less than 25 years of age [15], and it is common in women who delay reproduction [11,13], which also explains why most of them were nulliparae.

The inclusion criteria was meant to prevent the carrying out of caesarean myomectomy in women who were high risk for postoperative haemorrhage, those with medical disorders in pregnancy in whom haemorrhage may worsen their medical condition, and those who were of high parity in whom hysterectomy the definitive treatment of uterine fibroid will be more appropriate. Lateral and posterior incisions were avoided for fear of distortion of the patency of the fallopian tubes during the operation and/or from adhesion formation post-operation[6].

Myomectomy during caesarean section has been said to be associated with high risk of haemorrhage and difficulty with securing haemostasis [1-6]. Recent studies have shown that the two procedures can be safely combined together in one undertaking, particularly now with the use of high dose of oxytocin, mechanical vaso-occlusive techniques like uterine tourniquet and bilateral ascending uterine artery ligation, or the use of electrocautery to burn the myomas which are subsequently absorbed[6-12].

These measures have been found to be associated with low risk of haemorrhage and difficulty with securing haemostatsis [1-9]. Also the mean duration of operation, mean blood loss, duration of hospital stay and post-operative morbidity are not significantly different compared with LSCS only [1-9]. The uterine tourniquet was used in this study with similar outcome.

All the myomectomies were done after the delivery of the baby, except in two cases where the fibroids were along the LSCS incision, in order not to expose the fetus in utero to prolonged anaesthesia with low Apgar score[16], and to enable the surgeons to apply the uterine tourniquet in order to realize all its advantages.

Bilateral ascending uterine artery ligation has been found in some studies to have similar outcome with the uterine tourniquet method with regard to intra-operative blood loss in caesarean myomectomy cases [2]. but the efficacy of ligation continues into the post-operative period when the tourniquet must have been removed, which is desirable[2]. In this study, attention was paid to securing haemostasis after the removal of the tourniquet, and it was ensured that the systolic blood pressure of the women was greater than 90mmHg before closing the anterior abdominal wall, so as to avoid reactionary haemorrhage from collapsed blood vessels when the blood pressure was restored back to normal post-operation[14]. These measures made the tourniquet method to be safe and ensured a normal post-operative period.

The women were followed up in the postnatal clinic for three months post-operation rather than the traditional six weeks of puerperuim, in order to identify delayed complications of myomectomy like Ashermann's syndrome[5,6,10].

Conclusion and Recommendations

In this study, there was no significant difference in the outcome between those who had caesarean myomectomy and those who had LSCS only. This shows that caesarean myomectomy seems to be feasible and safe in selected cases, when uterine tourniquet is applied. It also has the advantages of avoiding subsequent surgery, providing symptomatic relief, psychological satisfaction and further pregnancies will not be complicated by the same problem, without compromising the safety of the mother and newborn. However, a multicentric study may be carried out to determine the acceptability of the procedure.

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