MYOMECTOMY AT CAESAREAN SECTION: DESCRIPTIVE STUDY OF CLINICAL OUTCOME IN A TROPICAL SETTING

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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:** To analyse the clinical outcome of women that had selective caesarean myomectomy in a community teaching hospital. **Method**: Twenty-two women that had selective myomectomy at caesarean section between January 2002 and October 2007 were analysed. **Results:** The patients mean age was 31.5 years with age range of 27–44 years. Of the 22 patients, 16 (72.7%) were Primigravida, 19 (86.4%) of the patients had caesarean section at term, 2 (9.1%) and 1 (4.5%) of the patients were preterm and post term respectively. A significant number of the patients (16/22, 72.7%) had elective caesarean section and the remaining 6 (27.3%) patients had emergency caesarean section. The 3 leading indications for caesarean section among the patients were malpresentation/abnormal lie 36.4%, uterine fibroids 18.2%, and a previous caesarean section with complication in 13.6% of the patients. Indications for myomectomy at caesarean section were fibroid in lower uterine segment in 15 (68.2%) patients, pedunculated uterine fibroid in 4 (18.2%) patients and anterior subserous fibroid in 3 (13.6%) patients. Intraopertively in the 22 patients, 10 (45.5%) had fibroid(s) removed only in the lower uterine segment; while 6 (27.3%) patients each, had it removed in the upper uterine segment and both upper and lower uterine segments respectively. A total of 46 fibroids were removed in the 22 patients, of which 24 (52.2%) were subserous/pedunculated, 16 (34.8%) intramural and 6 (13.0%) were submucous. Of the 46 fibroids, 32 (69.9%) were between 6 to 10 cm size. Sixteen (72.2%) of the 22 patients lost between 751 to 1000 ml of blood intraoperatively with an average of 806.8 ml of blood loss. Two (9.1%) of the 22 patients had blood transfusion due to anaemia. Other complications encountered were puerperal pyrexia and sepsis in 2 (9.1%) patients, and fracture of the humerus and clavicle of the baby in 1 (2.3%) patient. 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

INTRODUCTION

Uterine fibroid is the commonest pelvic tumour found in females in Africa, particularly among the Negroid race.[1,2] Pregnancy complicating fibroid and fibroid complicating pregnancy are not uncommon presentations to obstetrician practicing in Africa.

Removal of uterine fibroid at caesarean section is not routinely done, because the procedure is often complicated by severe haemorrhage.[3] Some authors are of the opinion that all anterior uterine fibroids should be routinely removed, should caesarean section be the mode of delivery.[4,5] However, most obstetricians in the tropics, still avoids caesarean myomectomy as a routine at caesarean section. Caesarean myomectomy when done is usually for pedunculated fibroids, anterior subserous fibroids and most especially fibroids in the lower uterine segment; in this study, we refer to myomectomy done for these types of fibroids at caesarean section as 'selective caesarean myomectomy'. Lower uterine segment fibroid is an important indication in our environment; this is to avoid a classical uterine incision that attracts bilateral tubal ligation in most cases, in a country where importance is placed on fertility.

This study is to find out the clinical outcome of selective caesarean myomectomy in two tropical hospitals where it is not routine to remove all anterior uterine fibroids at caesarean section, and to compare our findings with published results of studies that advocates routine caesarean myomectomy for all anterior uterine fibroids.

MATERIALS AND METHODS

This is an analysis of twenty two patients that had selective caesarean myomectomy between January 2002 and October 2007. The patients were either managed at the Ahmadu Bello University Teaching Hospital, Kaduna or at the 345 Aromedical Hospital, Kaduna. The case files were scrutinised and analysed for all necessary information. Data on age, parity, gestational period of the pregnancies, 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 5 cm in diameter.

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. All patients were maintained on oxytocin infusion for 24 hours post operatively.

RESULTS

Twenty-two patients had selective myomectomy at caesarean section during the study period. The mean age of the patients was 31.5 years. Sixteen patients (72.8%) were less than 35 years and 6 patients (27.2%) were above 35 years. A significant number of the patients (16, 72.7%) were primigravidae. Nineteen (86.4%) of the pregnancies were term pregnancy, 2 (9.1%) were preterm between gestational age of 31 weeks and 34 weeks and one was post term at gestational age of 43 weeks. (Table-1).

Table-1: Age, parity and gestational period of patients (n=22)

Variables	Number	%
Age		
26–30	8	36.4
31–35	8	36.4
36–40	1	4.5
41–45	5	22.7
Parity		
0	16	72.7
1	4	18.2
2	2	9.1
Gestational period		
Pre-term	2	9.1
Term	19	86.4
Post-term	1	4.5

Sixteen (72.7%) patients had elective surgery and 6 (27.3%) had their surgery done on emergent basis. In the subgroup that had emergency surgery, 3 were in labour, 2 had preterm rupture of foetal membrane with abnormal lie and 1 patients had placenta praevia. The 3 leading indications for caesarean section were malpresentation/ abnormal lie in 8 patients (36.4%), uterine fibroid in 4 patients (18.2%) and one previous caesarean section with complication in 3 patients (13.6%). Fibroids in the lower uterine segment was the commonest indication of selective caesarean myomectomy in 15 (68.2%) of the patients. (Table-2).

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

Variables	Number	%
Timing of surgery		
Elective	16	72.7
Emergency	6	27.3
Indication for caesarean section		
Malpresentation (Breech)/Abnormal lie	8	36.4
Uterine fibroids	4	18.2
One previous C/S with complication	3	13.6
Pre-term rupture of membrane	2	9.1
Placenta Praevia	2	9.1
Elderly primigravidae with sub fertility	2	9.1
Macrosomia	1	4.5
Indication for caesarean myomectomy		
Fibroid in lower uterine segment	15	68.2
Pedunculated fibroid	4	18.2
Anterior subresous fibroid	3	13.6

Table-3 shows that 10 patients (45.5%) had fibroid removed in the lower uterine segment, 6 patients (27.3%) in upper segment and 6 patients (27.3%) from both the upper and lower uterine segment. The subserous and pedunculated fibroids removed from the upper and lower uterine segment accounts for 52.26% of the fibroids removed. The intramural fibroids (34.8%) and submucous fibroids (13%) were only removed from the lower uterine segment. Most (69.6%) of the fibroids removed were mainly between 6 cm and 10 cm. The mean blood loss at surgery was 807 ml. None of the patients estimated blood loss at surgery was less than 500 ml or greater than 1,000 ml. Twenty (90.9%) patients did not need transfusion.

The maternal morbidities encountered were anaemia with blood transfusion in 2 (9.1%) patients and puerperal pyrexia with sepsis in 2 (9.1%) of the 22 patients. The only perinatal morbidity attributable to the surgery was right humeral and clavicular fracture which occurred during the process of delivery in 1 baby. A total of 24 babies were delivered, 2 patients had twin delivery. There was no maternal mortality and perinatal mortality. (Table-4)

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

Variables	Number	%
Location of fibroid removed (n=22)		
Lower uterine segment	10	45.5
Upper uterine segment	6	27.3
Both upper and lower segments	6	27.3
Types of fibroid removed (n=46)		
Subserous/Pedunculated	24	52.2
Intramural	16	34.8
Submucous	6	13.0
Sizes of fibroid removed (n=46)		
6–10 cm	32	69.6
Greater than 10 cm	14	30.4

Table-4: Estimated blood loss at surgery, blood transfusion and complications (n=22)

Variables	Number	%
Estimated blood loss at Surgery		
<500 ml	0	0
501–750 ml	6	27.3
751–1000 ml	16	72.2
Blood transfusion		
Yes	2	9.1
No	20	90.9
Complications		
Anaemia and blood transfusion	2	9.9
Puerperal pyrexia and sepsis	2	9.1
Fracture of humerus and clavicle of baby	1	4.5

DISCUSSION

Caesarean myomectomy was practically absent from the obstetric literature until the last decade.[5] This was due to the high risk of haemorrhage associated with this procedure and the need for blood transfusion.[3] The training had been to do interval myomectomy. However, some obstetricians started performing selective myomectomy at caesarean section for specific indications like pedunculated uterine fibroid, anterior subserous fibroid and fibroid in the lower uterine segment. More recently, some authors have advocated routine removal of all anterior wall uterine fibroid during caesarean section[4–6] Pregnancy complicated by uterine fibroid is a common presentation in our setting.

The mean age in this study group was 31.5 years with majority (72.8%) of the patients under thirty-five years. The patients were mainly primigravidae (72.7%). In Nigeria, there is strong aversion for myomectomy due to fear of surgery itself and the belief that infertility could result after the myomectomy, thus most patients prefers to have babies before contemplating removal of the fibroids. The 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 that is usually accompanied with bilateral tubal ligation in our population that believes in a large family size.

All the patients in this study were discharged by the eighth postoperative day at most; this is comparable with the study that advocates routine caesarean myomectomy for all anterior uterine wall fibroids.[4] The average estimated blood loss was 806.8mls, which is similar to 876 ml reported in a series of patients that had routine anterior uterine wall caesarean myomectomy.[4] However, it has been reported that hemorrhage is increased at caesarean myomectomy.[7,8] In this study, none of the patients had hysterectomy on account of haemorrhage, but Hassan *et al*[9] in their series reported three hysterectomies out of the ten patients that had caesarean myomectomy.

In our study group, 9.1% of the patients required blood transfusion, and these patients had their caesarean section on account of placenta previa. This percentage is low compared with 20% of the patients that required blood transfusion in the series that did routine caesarean myomectomy for all anterior fibroids.[4] Caesarean myomectomy has not been found to be associated with increased morbidity.[10] However, if it is performed in an emergent situation when the patient is already in labour or has ruptured the foetal membranes, there is increased chance of sepsis developing. Most of our patients had elective surgery which could be responsible for the low incidence of complications like anaemia and puerperal pyrexia with sepsis. In the study that advocates routine anterior uterine wall caesarean myomectomy, the most common morbidity was anaemia which occurred in 60% of the patients[4] as against 9.1% reported in this study. Injury to the foetus that occurred in one baby is not uncommon, especially if there are multiple fibroids which make adequate incision on the uterus and accessibility difficult.

Interestingly, caesarean myomectomy, which is said to be a cost effective procedure in a resource constrained setting[10], has its other benefits. It obviates the need for interval myomectomy and decreases complication(s) associated with fibroid in subsequent pregnancies.[11] It also increases the chances of vaginal delivery in subsequent pregnancies when removed from the lower uterine segment[3]. The scar integrity following caesarean myomectomy has been shown to be better than that following interval myomectomy,[12,13] when assessed with serial ultrasound scan in subsequent pregnancies[12] and at subsequent caesarean section[13].

CONCLUSION

In conclusion, the high rate of anaemia and blood transfusion reported for routine caesarean myomectomy for all anterior uterine fibroids calls for a caution, especially in our environment where unsafe blood transfusion due to HIV and hepatitis transmission is still of paramount concern. However, more research with large number of cases will help a long way in deciding whether to stick to doing caesarean myomectomy for selected anterior fibroids or to routinely perform it for all anterior fibroids.

REFERENCES

1. Kwawukume EY. Caesarean section in developing countries. Best Pract Res clin Obstet Gynaecol 2001;15(1):165–78.
2. Mattingly FE, Thompson JA. Leiomyoma uteri and abdominal hysterectomy for benign disease. In: Te Linde's Operative Gynecology. 6th ed. 1992. p.230–56.
3. Omar SZ, Sivanesaratnam V, Damodaran P. Large lower segment myoma: Myomectomy at lower segment section - a report of two cases. Singapore Med J 1999;40:109–10.
4. Ehigiegba AE, Ande AB, Ojobo SI. Myomectomy during caesarean section. Int J Gynaecol Obstet 2001;75:21–5.
5. Kwawukume EY. Myomectomy during caesarean section. Int J Gynaecol Obstet 2002;76:183–4.
6. Brown M, Myrie M. Caesarean myomectomy-a safe procedure. West Ind Med J 1997;46(2):45.
7. Hsieh TT, Cheng BJ, Liou JD, Chiw TH. Incidental myomectomy in caesarean section. Changgeng Y. Xue Za Zhi 1989;12(1):13–20.
8. Dimitdrov A, Nikolov A, Stamenov G. Myomectomy during caesarean section. Akush Ginekol (Sofia) 1999;38(2):7–9.
9. Hassan F, Arumugam K, Sivanesaratnam. Uterine leiomyomata in pregnancy. Int J Gyneacol Obstet 1991;34(1):45–8.
10. Akinyinka O. Omigbodun and Adeniran O. Fawole. Myomectomy during pregnancy and delivery: is it safe? Trop J Obstet Gynaecol 2005;22(1):1–3.
11. Kwawukumeh E.Y. Caesaren myomectomy. Afr J Reprod Health 2002;6:38–43.
12. Cobellis L, Messali EM, Satradella L, Pecori E, Cobellis G. Restitutio ad integrum of myomectrium after myomectomy. Different result in pregnant and non pregnant patients. Minerva Ginecol 2002;54:393–5.
13. Cobellis L, Messali EM., Satradella L, Pecori E, Gionio E. De Lucia E, *et al*. Myomectomy during caesarean section and outside pregnancy. Different outcomes of scars. Minerva Ginecol 2002;54:483–6.

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