

## Cesarean Myomectomy Outcome in a Nigerian District Hospital

Ehigiegba Alfred, Gargar Joy<sup>1</sup>, Ocheche Uduak<sup>2</sup>, Umejiego Chidozie<sup>1</sup>

Department of Obstetrics and Gynecology, University of Benin, <sup>1</sup>Obio Cottage Hospital, Port Harcourt, <sup>2</sup>Soldu Specialist Hospital, Port Harcourt, Nigeria

### ABSTRACT

**Background:** Myomectomy is best planned and carried out when the uterus is not gravid, as this will increase the chance of a normal pregnancy with no complication attributable to the fibroid during pregnancy. However, in the developing parts of the globe, especially in Africa where uterine fibroid is most common. Although myomectomy during pregnancy is discouraged, there are situations when it becomes inevitable. **Aim:** The aim of the study was to analyze the outcome of 42 consecutive Cesarean myomectomy done under the supervision of a Sabbatical obstetrician and gynaecologist at a district hospital in Nigeria. **Subjects and Methods:** This was a prospective, descriptive study of all patients who underwent Cesarean Myomectomy between November 2011 and October 2012 in a Obio Cottage Hospital, Port Harcourt, Nigeria. Myomectomy done at the time of Cesarean section (CS). The main outcome measures were number, location, and size of the fibroids removed, intraoperative blood loss, intra and post-operative complications, need for blood transfusion, and length of hospital stay. Data was entered into SPSS Vs 16 software and analysed. T-test was used to compare means and fishers exact test was carry out associations on non parametric data. Level of significance was set at  $P < 0.05$ . **Results:** Four Hundred and Fourty Six womens were delivered by Cesarean section and 42 of these had Cesarean myomectomy. Between 1 and 23 uterine fibroids were removed from each patient. The biggest fibroid was 18 cm in diameter and it weighed 3.8 kg. The mean blood loss was 695.7 mls. (250-1600 mls). There were no significant intra-operative complication and the mean length of hospitalization was 4.17 days (2.48). Three patients had one unit of blood transfusion while the fourth had seven. One patient had postoperative wound infection two weeks after discharge from the hospital. **Conclusion:** This series has added to the growing evidence of the safety of myomectomy during Cesarean section.

**KEY WORDS:** Blood loss, cesarean myomectomy, complications, Nigeria, port harcourt, safety

### INTRODUCTION

Any obstetric surgeon who encounters uterine fibroids at the time of doing a Cesarean section will always remember the age long teaching that uterine fibroids are best avoided during Cesarean section. This teaching was however modified by Hawkins and Stallworthy<sup>[1]</sup> who first advocated that myomectomy can be done during Cesarean sections in selected cases, especially when the fibroid is situated anteriorly in the lower segment and/or on the line of incision. In the last decade, many authors have reported the outcome of inevitable myomectomy during Cesarean sections or their experience with selective Cesarean myomectomies.<sup>[2,3]</sup> More recently, many publications have appeared in scientific journals with the clear message that myomectomy done at the time of Cesarean section

may not be as dangerous as once thought,<sup>[3-7]</sup> is 'effective and safe,<sup>[2-6]</sup> and that future fertility and or subsequent pregnancy outcome were unaffected by it.<sup>[8]</sup>

There is unanimity that myomectomy is best planned and carried out when the uterus is not gravid, as this will increase the chance of a normal pregnancy with no complication attributable to the fibroid during pregnancy. However, in the developing parts of the globe, especially in Africa where uterine fibroid is most common, many women commence pregnancy without being aware that they have uterine fibroids. Even when they were offered myomectomy at an earlier time, the fear of possible infertility after surgery or the fear of the operation itself may have prevented their accepting the procedure.

Most of the published works on this topic have been retrospective analysis of cases or descriptive studies. This prospective study set to document the outcome of Cesarean myomectomy in a district hospital in southern Nigeria during

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#### Address for correspondence

Dr. Alfred E. Ehigiegba,  
Department of Obstetrics and Gynecology, University of Benin, Nigeria.  
E-mail: [ehigiegba@hotmail.com](mailto:ehigiegba@hotmail.com)

the one year sabbatical deployment of the first author. This is a part of a larger prospective case-controlled study set to address the contentious issues of the safety of the procedure – blood loss, operating time, and complications.

## SUBJECTS AND METHODS

This prospective study was done between November 2011 and October 2012. The setting was the Obio Cottage Hospital; a Shell Petroleum Development Company supported district hospital with a well-organized and highly assessed Community Health Insurance Scheme. The first author was on a one year Sabbatical deployment by Shell Petroleum Development Company to the district hospital to help in 'capacity building' and in sustaining the novel Community Health Insurance Scheme. He had done a lot of work on the topic.

Patients scheduled for either an emergency or elective lower segment Cesarean section were counselled for the additional procedure of a myomectomy during the procedure. After the informed consent, arrangement for possible blood transfusion (should this become necessary) was made. Ethical permit was obtained from Ethics Committee of Obio Cottage Hospital on 12<sup>th</sup> of October 2012. Ref. No. Ob.11/12/005. Committee Chairman – Dr. F. Anene.

The safe delivery of the baby was always undertaken before the myomectomy, even in the very few cases where there was/were anterior lower segment fibroid/s. In this case, the same incision was utilized for both procedures. Following the delivery of the baby, high dose oxytocin infusion (30 i.u. in 500 mls) was put up and the Cesarean incision closed in two layers before myomectomy procedure was carefully undertaken. The bilateral uterine artery tourniquet was only resorted to if the high dose oxytocin was unable to control bleeding during the intra-operative period. The cavities from which the fibroids were enucleated were meticulously closed using fine absorbable sutures (vicryl/0 or 2/0), with the sutures closely applied and in two to four layers. Oxytocin infusion was maintained for 24 hrs after surgery at a rate of 20 drops/min.

Blood loss was assessed by the Anaesthetist and Operating Room Nurse from the suction bottle, weight differentials of used swabs and linen. The data collected for each case included the number, location and size of the fibroids removed, intraoperative blood loss, type of anesthesia, duration of operation, need for blood transfusion, intra and postoperative complications, and length of hospital stay. Data was entered into SPSS Vs 16 software and analysed. T-test was used to compare means and fishers exact test

was carry out associations on non parametric data. Level of significance was set at  $P < 0.05$ .

## RESULTS

There were 1939 deliveries and 446 cases of Cesarean sections done in the facility during the period of the study. 75 of these cases (16.8%) were elective. All were done at 36-41 weeks of gestation. 42 had Cesarean myomectomy. The Cesarean section rate for the facility was 23% and the Cesarean myomectomy rate was 9.4% of the Cesarean sections.

Most of the patients were above 30 years and the commonest indications for Cesarean section were Cephalo-Pelvic Disproportion/Obstructed Labor, Primigravid Breech and Pregnancy-Induced Hypertension [Tables 1 and 2].

Most of the patients had their fibroids in the subserous and intramural compartments of the uterus, and most of the fibroids were located in the anterior upper segment with quite a few on the lower segment and posterior wall. Many patients had less than 5 fibroids removed and about 50% had between 6 and 15 [Table 3]. The highest number removed was 23 and the largest size was 18 cm in diameter. This fibroid weighed 3.8 kg!

High dose Oxytocin infusion was the main technique for limiting bleeding during the procedures; only in one case was the bilateral uterine artery tourniquet utilized. The blood loss in this series is reflected in Table 4. Seven patients lost over 800 mls of blood. However, none had a loss severe enough and/or unresponsive to simple replacement to necessitate a hysterectomy. The

**Table 1: Age and parity of patients**

	Number of cases (%)
Age range	
21-30	17 (40.5)
31-40	24 (57.1)
41-50	1 (2.4)
Parity	
1-4	40 (95.2)
5 and above	2 (4.8)

**Table 2: Indications for cesarean section**

Indication	Number	%
Two or more previous C/S	1	2.4
Cephalo-pelvic disproportion/obstructed labor	10	23.8
Primigravid breech	8	19.1
Previous C/S+another indication	3	7.1
Failed induction of labour	4	9.5
Pregnancy induced hypertension	5	11.9
Unstable/transverse lie	3	7.1
Elderly primip+previous infertility	4	9.5
Patients' request	2	4.8
Placenta previa	2	4.8
Total	42	100

**Table 3: Number, sizes of uterine fibroids, and their location in the uterus**

	Number of patients
Number of fibroids	
1-5	18
6-10	12
11-15	9
Above 15	3
Size of fibroids	
Less than 6 cm	12
6-10 cm	22
11-15 cm	5
16-20 cm	3
Type/s of fibroid/s	
Pedunculated	5
Subserous	20
Intramural	12
Submucous	5
Location of fibroid/s	
Mainly in the upper segment	31
Mainly in the lower segment	11
Mainly in the anterior wall	32
Mainly in the posterior wall	10

The highest number removed was 23 the largest size was 18 cm. This fibroid weighed 3.8 kg!

**Table 4: Blood loss, surgery duration, length of hospitalization, and blood transfusion**

	Number of cases
Blood loss (mls)	
200-500	15 (35.7)
510-800	20 (47.6)
801-1100	3 (7.1)
1101 and above	4 (9.5)
Mean=695.7 mls (250-1600 mls)	
Duration of surgery (minutes)	
0-30	6 (14.3)
31-60	24 (57.1)
61-90	10 (23.8)
Above 90 mins	2 (4.8)
Length of hospitalization (days)	
2-3	24 (57.1)
4-5	13 (31.0)
6-7	2 (4.8)
Above 7 days	3 (7.1)
Mean=4.17 days (SD=2.48)	
Change in haematocrit (%)	
1-3	10 (23.8)
4-6	17 (40.5)
7-9	8 (19.0)
10 and above	7 (16.7)
Blood transfusion*	No. of patients
One unit	3
Seven units	1

haematocrit deficits (the difference between the pre-op and second day post-op values) are also reflected in Table 4. Three patients needed one unit of blood replacement but one patient had seven units. This patient had the additional pathology of adenomyosis and had uterine atony after she was discharged to the ward from the recovery room. We found no relationship between the number of fibroids removed and the blood loss.

The patient who had 7 units of blood had seven fibroids removed (largest was 5 cm) and also had extensive adenomyosis. She had uterine atony.

The duration of surgery was less than 60 mins in more than half of the cases and the two cases that lasted more than 90 mins were the cases with the most fibroids. More than half of the patients spent between 2-3 days before discharge. The five patients who spent more than five days had delayed wound healing. They all had emergency lower segment Cesarean section for obstructed labour. One of the early discharges was readmitted after two weeks with delayed wound infection.

## DISCUSSION

Myomectomy during Cesarean section has traditionally been discouraged. In fact, many surgeons perform classical Cesarean instead of a low transverse Cesarean in order to avoid a lower uterine segment uterine fibroid, even though the procedure carries more risk of increased blood loss in itself. The aim is for an interval myomectomy later.<sup>[8]</sup> In the last decade, however, many authors have reported myomectomy during Cesarean section for specific indications like pedunculated fibroids or when myomectomy was considered 'unavoidable'.<sup>[9]</sup> More recently, reports about the routine removal of all fibroids, especially those in the anterior wall of the uterus, have been reported.<sup>[4,10,11]</sup>

Interestingly, some authors have reported a higher incidence of post-partum haemorrhage, some life-threatening, in cases where the fibroid/s (especially when in the lower uterine segment) is/are not removed at Cesarean section.<sup>[12,13]</sup> However, the advantages of this procedure to the woman, especially the avoidance of a repeat laparotomy and anaesthesia with their complications<sup>[14]</sup> and the cost saving<sup>[7]</sup> are attractive to many women and doctors, especially in low resource countries, must be emphasised.

The most contentious issue with this controversial procedure is the blood loss. The average loss at Cesarean section is put at 1000 mls.<sup>[15]</sup> More than half of the patients in this series recorded a loss of less than 800 mls. Only 4 patients needed blood replacement, with only one requiring more than one unit of blood.

This series has shown that even very huge fibroids can safely be removed at Cesarean section. About 25% of the patients had fibroids measuring 10 cm and above removed, with the largest weighing 3.8 kg and measuring 23 cm in diameter! These big fibroids, if left *in situ* during the Cesarean section, were capable of preventing effective uterine contractions with the resultant complications of uterine atony and sub-involution. Additionally, their removal decreases the complications associated with uterine fibroids in subsequent pregnancies.<sup>[16]</sup> The scar integrity following Cesarean myomectomy has been shown to be better than that following interval myomectomy<sup>[17,18]</sup> when assessed

with serial ultrasound scan in subsequent pregnancies<sup>[17]</sup> and at subsequent Cesarean section.<sup>[18]</sup>

An interesting finding in this series is the request by two patients for elective Cesarean myomectomy. They were both obliged, in line with the growing trend of granting elective Cesarean section requests. In a large, multiunit study, 15-79% of European obstetricians obliged the woman's request for an elective Cesarean section because that was 'her choice'. That study concluded that, until better evidence becomes available, individual obstetricians faced with a request for elective Cesarean delivery are charged with the delicate task of fostering their patients' freedom of choice by exploring the motivation and fears underlying such requests and ultimately act according to what they believe to better promote the health and welfare of mother and fetus.<sup>[19]</sup>

The lengths of hospital stay of the Cesarean myomectomy patients were normal for Cesarean section and the morbidity encountered in this series fell within the expected level.

## CONCLUSION

The results of this study are further convincing evidence that Cesarean myomectomy may not be as dangerous as once thought.

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