

Labour outcome following laparoscopic myomectomy in infertility patients in Port Harcourt Nigeria

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Abstract

Laparoscopic myomectomy is being used to surgically treat women with uterine fibroid in our environment. The effect of this treatment modality on achieving pregnancy and its outcome in women with infertility deserves evaluation.

Objective: This was to assess the fetal and maternal outcome of pregnant women with prior laparoscopic myomectomy and background infertility.

Materials and Method: The study is a retrospective one involving 21 out of 86 women that underwent laparoscopic myomectomy and achieved pregnancy over a period of 30 months.

Result: There was pregnancy in 21 out of 86 women that had laparoscopic myomectomy, thus giving a pregnancy rate of 24.4%. The pregnancy outcome was good. The mean gestational age at delivery was 37.76 ± 1.97 weeks and the babies had the mean birth weight of 3.09 ± 0.54 kg with the mean APGAR score of 7.47 ± 2.09 . The vaginal delivery rate was 23.8% and the mean duration of hospital stay was 4.62 ± 1.43 days.

Conclusion: Laparoscopic myomectomy improves the chances of pregnancy in young women with background infertility and is associated with good labour outcome.

Keywords: Laparoscopy; Myomectomy; Pregnancy; Outcome; Port Harcourt

1. Introduction

Laparoscopic myomectomy is becoming relatively available in our environment for the surgical management of uterine fibroid. Uterine fibroid itself is a common cause of infertility among women of reproductive age in Nigeria [1].

From previous studies, fibroid may cause dysfunctional uterine contractility which may interfere with sperm migration, ovum transport and can disturb implantation of fertilized ovum due to focal endometrial vascular disturbance. In this way fibroid can impair conception [2,3].

Management of uterine fibroid is conservative in those that are asymptomatic, perimenopausal or those with aversion to surgery. Other means of management are medical, surgical which could be myomectomy or hysterectomy, uterine artery ligation or embolisation and magnetic resonance-guided high intensity focused ultrasound (MRgHIFU) [4,5].

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Being a minimal access surgery, a lot of women with fibroid in our environment, especially the more economically buoyant ones are opting for laparoscopic myomectomy in the course of managing infertility as the procedure is getting commoner [6]. Laparoscopic myomectomy unlike the open myomectomy approach has been shown in previous studies to offer lesser blood loss, less postoperative pain, shorter hospital stay and recovery time. There is also a report of significantly lower intraabdominal adhesions following laparoscopic myomectomy [7,8,9].

Pregnancies have been achieved by some women that had laparoscopic myomectomy in other centres with good outcome [10,11,12]. A history of prior extensive uterine surgery including myomectomy portends a risk to the parturients from previous studies. This could be miscarriages, preterm labour, placenta praevia, malposition, uterine rupture, antepartum, intrapartum or postpartum haemorrhage and increased likelihood of caesarean section [13].

With the uptake of the minimal access laparoscopic myomectomy in our centre we reviewed the case notes of the patients to know their labour outcome.

Objective

This study assessed the fetal and maternal outcome of pregnant women with prior laparoscopic myomectomy and background infertility.

2. Material and methods

The study is a retrospective one involving patients who underwent laparoscopic myomectomy, subsequently achieved pregnancy and had their deliveries at Savealife Mission Hospital PortHarcourt, Nigeria between January 2017 and June 2019.

They had symptomatic uterine fibroid which was diagnosed by abdominopelvic ultrasonography. Their uterine sizes were below 24 weeks size and they were offered laparoscopic myomectomy. This procedure was done using multiple port access with suprapubic, McBurney and counter McBurney ports. Dilute vasopressin was used to infiltrate the uterine areas with fibroid intermittently to decrease blood loss. The fibroids were enucleated using myoma screws and claw forceps. The use of bipolar coagulation was made during surgery to secure haemostasis while the uterus was repaired with monolayer or double layered suturing with vicryl 2 sutures depending on the depth of the fibroid bed. The fibroids were removed by morcelation.

Out of the 86 patients who had laparoscopic myomectomy, 21 of them who achieved pregnancy were selected for the purpose of the study. They were all married and booked. Their case files and birth register were retrieved from the Medical Records department and the labour ward respectively for the data. The information obtained were age, parity, educational level, antenatal, intra partum and post partum complications, gestational age at delivery and mode of delivery. Others were birth weight, APGAR scores and post natal complications.

The data was analysed with SPSS version 23.0 for windows and presented with descriptive tables, student t-test and pie chart. P value less than 0.05 was statistically significant.

3. Results

Twenty one out of 86 women that underwent laparoscopic myomectomy in this study achieved pregnancy. This gave a pregnancy rate of 24.4% as captured in figure 1.

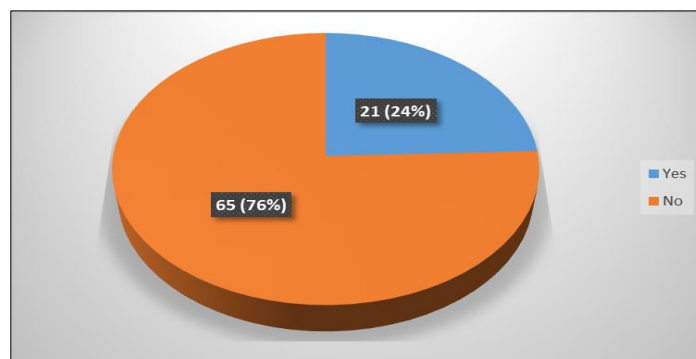


Figure 1 Pregnancy rate

Table 1 Demographic characteristics of the women who achieved pregnancy

	Frequency	Percent
Age group		
25 – 29	2	9.5
30 – 34	13	61.9
35 – 39	3	14.3
≥40	3	14.3
Level of Education		
Secondary	4	19
Tertiary	17	81
Parity		
1	14	66.7
≥2	7	33.3
Sex of the baby		
Male	10	47.6
Female	11	52.4

Table 2 shows that the mean gestational age (GA) was term, birth weight and APGAR score were normal and the mean duration of admission was less than 7 days.

Table 2 GA, Birth weight, APGAR and mother’s duration of admission

	Mean ± SD	Min	Max
Gestational age	37.76 ± 1.97	32.00	40.00
Birth weight	3.09 ± 0.54	2.00	3.80
mother’s duration of admission	4.62 ± 1.43	2.00	7.00
APGAR score	7.47 ± 2.09	0.00	9.00

Other parameters for the outcome of pregnancies were captured in table 3 below including the modes of delivery.

Table 3 Age and Pregnancy outcome

	Frequency	Percent
Age group		
≤35	15	71.4
>35	6	28.6
Mode of delivery		
C/S	16	76.2
SVD	5	23.8
Gestational Age at delivery		
<37 weeks	4	19.0
≥37 weeks	17	81.0
Morbidity		
Yes	6	28.6
No	15	71.4
APGAR		
<6	2	9.5
≥6	19	90.5
Birth weight		
<2.5kg	4	19.0
≥2.5kg	17	81.0
Newborn Admission		
Yes	6	28.6
No	15	71.4
Duration of Mother's admission		
≤7 days	21	100.0
>7 days	0	0.0

Table 4 below shows the frequency of neonatal morbidity and mortality noted from the study, the type of caesarean section (C/S), frequency of spontaneous vaginal deliveries (SVD) and in vitro fertilization (IVF) pregnancy.

Table 4 Neonatal outcome, type of delivery and IVF pregnancy

	Frequency	Percent
Neonatal Jaundice	2	9.5
Emergency C/S	2	9.5
Elective C/S	10	47.6
SVD	5	23.8
IUFD	1	4.8
IVF pregnancy	2	9.5

4. Discussion

Laparoscopic myomectomy is a definitive surgical technique for treating women with uterine fibroid who prefer to preserve their fertility [5]. Twenty one out of the 86 women that underwent laparoscopic myomectomy achieved pregnancy in this study. This gave a pregnancy rate of 24.4%. This is similar to the pregnancy rate of 20%, higher than 15.9% and lower than 39.7% rates obtained from previous studies in women who had laparoscopic myomectomy [2,9,14]. This further affirms myomectomy to improve the chances of achieving pregnancy in women with infertility [15,16].

In this study, 71.4% of the pregnancy was achieved in women of 35 years and below. This was comparable to similar studies with 35 years or below as the mean age of women who achieved pregnancy after laparoscopic myomectomy [2,11,17,18]. This finding supports previous studies showing that age was significantly associated with pregnancy rate after myomectomy [19]. Younger women have a higher pregnancy rate than older women as seen in a Senegalese study [11,18].

The labour outcome showed good parameters as most of the pregnancies were carried to term with their mean gestational age at 37.76 ± 1.97 weeks. Their babies had the mean birth weight of 3.09 ± 0.54 kg and mean APGAR score of 7.47 ± 2.09 . This showed that women with prior laparoscopic myomectomy have good obstetric outcome. Some previous studies showed favourable outcome [20,21]. A case of intrauterine fetal death was recorded as adverse event from our study in a baby with features of Down's syndrome, however, the women without morbidity were 71.4% of those studied. Some studies after laparoscopic myomectomy also recorded adverse event like uterine rupture [22,23]. No uterine rupture was recorded in our study.

Though currently, no clear evidence exists regarding the mode of delivery choice after myomectomy, 23.8% of the women studied had vaginal delivery [15]. This was less than 38.6% of vaginal delivery recorded after post laparoscopy in a similar study [10]. It is higher than the value obtained from another study which showed that no vaginal delivery was allowed after laparoscopic myomectomy [9]. The caesarean section rate was 76.2% which was comparable to 77.8% obtained in a related study but less than 100% from another post laparoscopic myomectomy study [2,9].

The mean duration of hospital stay in this study was 4.62 ± 1.43 days. This was similar to what was obtained from other studies with short duration of hospital stay [2,9,10,17].

5. Conclusion

Laparoscopic myomectomy improves the chances of achieving pregnancy in young women with background infertility and is associated with good pregnancy outcome. Proper patient selection and adequate surgical skill are advisable.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest.

Statement of ethical approval

This was obtained from the hospital's ethics committee.

Statement of informed consent

Informed consent was obtained from all the participants included in the study.

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