Original Research Article

OBSTETRIC OUTCOME IN PATIENTS WITH PREVIOUS ABDOMINALMYOMECTOMY AT A TERTIARY HOSPITAL IN PORT HARCOURT, NIGERIA

ABSTRACT

Background: Abdominal myomectomyrefers to the surgical removal of fibroids from the uterus through an abdominal incision. It is one of the treatment options for uterine fibroids. Women who had this form of treatment may be faced with increased risks and complications during future pregnancies and deliveries.

Aim: To ascertain the obstetric risk anddelivery outcome of pregnancies achieved after a previous abdominal myomectomy.

Methodology: This was a retrospective study of pregnancy outcome in women who had abdominal myomectomy at University of Port Harcourt Teaching Hospital (UPTH) from 2018 to 2022.The case records of the patients were retrieved, and data on socio-demographic characteristics, mode of delivery, obstetric complications, and foetal outcome was extracted and analysedusing SPSS version 25.

Results: There were 7,602 antenatal clinic attendeesduring the study period, out of which 83 of the women had previous myomectomy and were delivered in UPTH. This accounted for 1.1% of booked patients who attended antenatal care and delivered at the hospital. Seventy-two case notes were retrieved, giving a case retrieval rate of 86.7%. The mean age was 34.89 ± 4.27 years (range from 18 to 47 years). The total Live birth post myomectomy was 56 (77.8%). There were 14 (19.4%) miscarriages and 2 (2.8) stillbirths. Patients that conceived spontaneously were 61 (84.7%), while 11 (15.3%) had in-vitro fertilization (IVF). Caesarean section was used in 67 (93.1%) of deliveries with elective caesarean section accounting for 45 (62.5%) of the deliveries. The commonest indication forcaesarean section was previous myomectomy with breached endometrium in 53 (79.1%) cases. Forty-one (56.9%) of the deliveries occurred at 38-40 weeks of gestation.

Conclusion: Obstetric outcome after abdominal myomectomies was good with high live birth rateand no maternal mortalityrecorded.Women who had abdominal myomectomy should be counselled to attend antenatal care and deliver in adequately equipped centres with skilled personnel to avert adverse pregnancy outcomes.

Keywords: *Obstetric outcome, Abdominal myomectomy, Port Harcourt*

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1. INTRODUCTION

Leiomyoma which is also called Uterine fibroids are benign tumours of the uterus arising from neoplastic change of single smooth muscle cell of the myometrium. They are known to be the

commonest benign tumour in adult female genital tract [1].Approximately 12-25% of women within the reproductive age group are clinically diagnosed to have uterine fibroids and about 80% of surgically excised uteri contain fibroids [1,2]. Uterine fibroids create an undesirable environment for conception and continuation of pregnancy. Its presence may hinder the progress of pregnancy by distorting the normal uterine anatomy, implantation failure, miscarriages and other obstetric complications [3].

The recognised management of symptomatic uterine fibroids could be watchful waiting in cases of small fibroids, pharmacotherapy (Gonadotrophin releasing hormone agonist (GnRH)), intra-uterine devices (IUD) or newer non-invasive procedures such as focused ultrasound therapy (FUS). It could also require the invasive procedures for larger and more complicated fibroids [4]. The invasive procedures for the treatment of uterine fibroids for women who want to conserve their uterus and fertility are either the minimally invasive procedures like the laparoscopic myomectomy, hysteroscopic myomectomy or the more invasive traditional surgical procedures like the abdominal myomectomy. It could also be hysterectomy which involves surgical removal of the uterus, through abdominal or vaginal route for those who have completed their family sizes or those with life threatening complications [5].

Myomectomy causes myometrial scar tissue formation, which may result in weakening of the muscular wall and consequently increases the risk for obstetric catastrophe of abrupt uterine rupture [6].The uterine scar following myomectomy also increases the risk for placenta praevia and has contributed to increase in the rate of caesarean delivery because of fear of uterine rupture.

Pregnancy following myomectomy may be faced with increased problems of intrauterine adhesions, miscarriages, preterm births, abnormal placentation, caesarean section and uterine rupture [6,7]. Above all, uterine rupture in pregnancy is one of the causes of perinatal hypoxic injury to the brain, cerebral palsy, intrauterine foetal death (IUFD) and stillbirths [8].During trial of labour after a previous myomectomy, the incidence of uterine rupture is about 0.43% [6].Some literatures state that uterine rupture after a previous myomectomy happened basically before 36 weeks of gestation and before labour [9,10,11].

A study done by Seracchioli et al in 2006 on obstetric outcome of pregnancies that were achieved post laparoscopic myomectomy in 514 patients of reproductive age group showed that 158 pregnancies were achieved, 43 patients (27.2%) had spontaneous miscarriage, 4 patients (2.6%) had ectopic pregnancies and 1 patient (0.6%) had therapeutic abortion. A total of 27 patients (25.5%) had vaginal deliveries, while 79 patients (74.5%) had caesarean section. There was no case of ruptured uterus registered [12].Another retrospective study on pregnancy outcomes and risk factors for uterine rupture following laparoscopic myomectomy by Koo et al in 2015 showed that 676 women went to their obstetrics department for pregnancy after the surgery at the same centre between 1994 and 2012 and 523 of them were followed up to the end of pregnancy. The pregnancy outcomes showed that 400 (76.5%) of them had full term deliveries and about 100 (19.1%) had their deliveries vaginally, with some adverse outcomes not different from those of the general population [13]. Only about 3

cases (0.6%) of uterine rupture happened in the course of pregnancy.The meantime interval between the laparoscopic myomectomy and the subsequent pregnancy was 14 months.

2. MATERIALS AND METHODS

This was a retrospective study of all women that had abdominal myomectomy irrespective of indication and later became pregnant and had their antenatal care and delivery at the University of Port Harcourt Teaching Hospital from 1st January, 2018 to 31st December, 2022. Women who had myomectomy for pedunculated uterine fibroids were however excluded.

The case notes of these patients were retrieved and studied after obtaining ethical approval from the hospital and a written permission from the Head of medical records department of the hospital. The antenatal and delivery registers were also studied. The variables analysed were age, parity, mode of conception, complications during the antenatal period, gestational age at delivery, intrapartum complications, mode of delivery, foetal outcome and postpartum complications. The analysis of the data collected was done using IBM Statistical Product and Service Solutions (SPSS) version 25 and presented as mean, percentages and rates.

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3. RESULTS

A total of 83 women had abdominal myomectomies and later conceived over the five-year study period under review. Seventy-two case notes were retrieved from the medical records department, giving a case retrieval rate of 86.7%.

Table 1 shows the age distribution of the women with the ages ranging between 18 and 47 years. Women aged 28-37 years had the highest rate of conception after myomectomy and this was recorded in 53 (73.6%) of the patients. Table 1 also shows the parity of the women who had abdominal myomectomy and later conceived with thenullipara having a higher rate of pregnancy and delivery of 35 (48.6%) compared to others. The mode of conception is also shown with 61 (84.7%) of the women conceiving spontaneously while 11 (15.3%) had invitro fertilization.

Table 2 shows the complications encountered during the antenatal period. There were 14 (19.4%) miscarriages, 4 (5.6%) cases of severe pre-eclampsia, 2 (2.8%) antepartum haemorrhage (APH)cases due to placenta previa, 2 (2.8%) preterm pre-labour rupture of membranes and 1 (1.4%)case of antepartum haemorrhage due to uterine rupture. A total of 49 (68.1%) of them did not haveany antenatal complication. Elective caesarean section was the commonest mode of delivery with 45 (62.5%) cases, followed by emergency caesarean section with 21 (29.2%) cases, Spontaneous Vagina Delivery (SVD) with 5(6.9%) cases and emergency exploratory laparotomy with 1 (1.4%) case. Post myomectomy was the commonest indication for caesarean section andaccounted for 53 (79.1%) of the cases as shown in table 2. This was followed by severe pre-eclampsia with 4 (6.0%) of the cases, infertility and Major degree placenta previa accounted for 3 (4.5%) of the cases each. Antepartum haemorrhage (APH) due to placenta previa and Cord prolapse with live baby

accounted for 2 (3.0%) each. The mean gestational age at delivery was 37.24 ± 1.28 weeks. A total of 41 (56.9%) deliveries occurred at 38-40 weeks of gestation,28 (38.9%) deliveries were at35-37 weeks, while 3 (4.2%) occurred at 32-34 weeks of gestation.

Table 3 shows the foetal outcome with the live birth rate of 56 (77.8%). There were 14 (19.4%) miscarriages and 2 (2.8%) fresh stillbirths. Intrapartum complication with bladder injury accounted for 3 (4.2%) cases while 69 (95.8%) of the cases had no intrapartum complications. Similarly, for postpartum complications, postpartum haemorrhage accounted for 8 (11.1%) cases while 64 (88.9%) had no postpartum complications.

Table 1: Age distribution, Parity and Mode of Conception

Variable	Frequency (n=72)	Percent
Age Distribution (Years)		
18 - 27	3	4.2
28 - 37	53	73.6
38 - 47	16	22.2
Mean S.D	34.89 ± 4.27	
Parity		
Nullipara	35	48.6
Primipara	24	33.3
Multipara	13	18.1
Mode of Conception		
Spontaneous	61	84.7
In Vitro Fertilization	11	15.3

Table 2: Complications during antenatal period, Gestational age atdelivery, Mode of delivery and Indication for caesarean section.

Variable	Frequency (n=72)	Percent

Complications during Antenatal period		
Miscarriages post myomectomy	14	19.4
Severe pre-eclampsia	4	5.6
Antepartum haemorrhage due to placenta previa	2	2.8
Preterm prelabour rupture of membrane(PPROM)	2	2.8
Antepartum haemorrhage due to uterine rupture with Anaemia	1	1.4
No complications	49	68.1
Variable	**Frequency(n=72)**	**Percent**
Mode of delivery		
Elective C/S	45	62.5
Emergency C/S	21	29.2
SVD	5	6.9
Emergency Exploratory Laparotomy.	1	1.4
Indications for Caesarean Section		
Variable	**Frequency(n=67)**	**Percent**
Post myomectomy	53	79.1
Major degree placenta previa	3	4.5
Infertility	3	4.5
Severe pre-eclampsia	4	6.0
APH due to placenta previa	2	3.0
Cord prolapsed with live baby	2	3.0
Gestational age at the time of delivery (Weeks)	**Frequency(n=72)**	**Percent**
32-34	3	4.2
35-37	28	38.9
38-40	41	56.9
Mean SD	37.24 ± 1.28	

Table 3: Foetal outcome, Intrapartum complications and Postpartum complications

Variable	**Frequency (n=72)**	**Percent**
Foetal Outcome		

Live birth	56	77.8
Fresh Stillbirth	2	2.8
Miscarriage	14	19.4
Intrapartum Complications		
Bladder injury	3	4.2
No Intrapartum complications	69	95.8
Postpartum complications		
Postpartum haemorrhage	8	11.1
No Postpartum complications	64	88.9

4. DISCUSSION

Myomectomy is the surgical removal of fibroid tissues from the uterus [3-5]. It could be done through open abdominal surgery or by laparoscopy [6]. Abdominal myomectomy is the commonest option of treatment for uterine fibroids in women within the reproductive age group who desire to preserve their fertility, especially in developing countries [6-8]. Some women with uterine fibroids could get pregnant and deliver without undergoing myomectomy [7]. When abdominal myomectomy is done, there are some obstetric risks that the patient is exposed to during the antenatal, intrapartum and postpartum periods [6,8].Those risks however, can be prevented with proper compliance to post myomectomy counselling and advise, preconception care, early antenatal booking in a tertiary health facility and strict compliance to the antenatal visits, and properly supervised deliveries in thefacilities [1,9-13].

Following this study, it was found that younger women had higher pregnancy rate with mean age (34.89 ± 4.27 years) and range between 18 and 47 years. This was also observed in a study carried out by Zhang and Hua in 2014, where the average age of the pregnancy class was 30.0 ± 3.7 years [14].

One of the risk factors for uterine fibroid is nulliparity [14-17]. Nulliparous patients had more abdominal myomectomies compared to primiparous and multiparous women [16-19]. In this study, 48.6% of the patients were nulliparous who later became pregnant. In the research done by Adesina et al in Ilorin 2017, it was noted that 77.1% of the patients were nulliparous [15]. This was also in keeping with a study done in Abia state in 2022 by Peace et al, which also found more nulliparous women with uterine fibroids at 58% [19].

In this study, it was also found that most of the women conceived spontaneously (84.7%) post myomectomy while 15.3% was through in vitro fertilization. This was also observedin a similar study done at the same centre inPort Harcourt in 2015 among women who were treated for infertility with open abdominal myomectomy to improve their fertility outcomes. It was discovered that 95.5% of them conceived spontaneously [17].Abdominal myomectomy seemed to be good for women that wish to achieve pregnancy but had uterine fibroids as a challenge [3]. This supported the fact that uterine fibroid has negative impact on fertility [3,4].

Succeeding pregnancy following myomectomy may be faced with increased risk of intrauterine adhesions, preterm deliveries, abnormal placentation, caesarean deliveries and uterine rupture [1,17-19].The miscarriage rate of 19.4% ranked highest among the complications encountered during the antenatal period. Miscarriage rates of 9.1% and 20% were observed by other researchers [17,18].Live birth rate in this study was 77.8% which was high and in keeping with live birth rate of 84.1% and 75% found in other studies [17,19] which signifies good outcome with proper management of such pregnancies.Most of the women in this study (91.7%) had caesarean section as their mode of delivery with elective caesarean section having 62.5%, while emergency caesarean section 29.2%. Other studies also recorded corresponding higher caesarean section rates [12,13,17,18].In this study, the major indication for the caesarean section was previous myomectomy (79.1%).

One patient (1.4%) had uterine rupture that led to abdominal extraction of the fresh stillborn. The fear associated with this obstetric risk (uterine rupture) has resulted in high caesarean section rates among these patients [7-9],as was also noted in this study. The few patients who had vaginal deliveries were those with small sized fibroid without breeched endometrium at the time of myomectomy. Other obstetric complications observed in this study are antepartum haemorrhage due to major degree placenta previa (1.4%) and preterm prelabour rupture of membrane (1.4%). Intra-partum complication which resulted possibly due to adhesions was also encountered, like bladder injury (4.2%), while 95.8% did not have intra-partum complication. The only post-partum complication encountered was post-partum haemorrhage (11.1%), while 88.9% did not record any post-partum complication.

5. CONCLUSION

The study has shown a high pregnancy rate after abdominal myomectomy in patients who had uterine fibroids. Women who had abdominal myomectomy should be counselled to attend antenatal care in a tertiary health facility for adequate follow up and delivery to avert obstetric calamities such as uterine rupture which has huge consequences on the woman's reproductive carrier. Clinicians may consider using this information in the management of such patients, by individualizing them to ensure better outcome.

ETHICAL CONSIDERATION

The Ethics committee of the University of Port Harcourt Teaching Hospital gave approval for the study.

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