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# MANAGEMENT OUTCOME OF UTERINE FIBROIDS IN PREGNANCY IN A SECONDARY HEALTH FACILITY IN CALABAR, SOUTH-SOUTH NIGERIA

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**ABSTRACT**: *Uterine fibroid is the commonest benign tumors of the uterus and may lead to several complications in pregnancy. The objective was to determine the maternal and foetal outcome of fibroids in pregnancy. This prospective study was conducted in Nigerian Navy Hospital, Calabar over 2 year among women with fibroids in pregnancy. Result showed that a total of 889 women booked for antenatal care during the period, of which 72 had fibroids in pregnancy giving the incidence of 8.1%. Majority of the women were within the age group of 30-39 years 39(54.2%) and nulliparae 32(44.4%). A total of 3(4.2%) had 1st trimester miscarriages, 4(5.2%) had preterm delivery, 22(30.6%) had spontaneous normal vaginal delivery at term while 37(51:3%) had caesarean section. In conclusion, uterine fibroid is a common finding in pregnancy and the manifestation varies depending on their size and site. Pregnancies with uterine fibroid are high risks and are commonly associated with complications such as caesarean sections, primary post partum haemorrhage, miscarriage and preterm labour.*

**KEYWORDS:** Uterine fibroids, pregnancy, miscarriage, caesarean section, Calabar

## INTRODUCTION

Uterine leiomyomata or uterine fibroids are the most common tumors in women of reproductive age and are asymptomatic in at least 50% of afflicted women (Gupta, Jose and Manyonda, 2008). Symptoms include menstrual disturbances such as menorrhagia, dysmenorrhea and intermenstrual bleeding, dyspareunia and noncyclical pelvic pain (Lippman, Wamer and Samuels, 2003) and pressure symptoms such as a sensation of bloatedness, increased urinary frequency and bowel disturbance are also common (Ciavattini *et al*., 2013). It may also impair reproductive functions resulting in reduced fertility, early pregnancy loss, increased preterm labor and delivery, and markedly increased risk for ceasarean delivery (Payson *et al*., 2006, Ciavattini et al 2013). According to a Western study, women with uterine fibroids can be asymptomatic (in 50-60% of cases) or may present with menorrhagia (30%), pelvic pain with or without dysmenorrhea or pressure symptoms (34%), infertility (27%) and recurrent pregnancy loss (3%) (Buttram and Reiter, 1981). The prevalence of fibroids in infertile women can be as high as 13% (Lumsden and Wallace, 1998; Valle, 1980). Pregnancy complications such as caesarean delivery, breech presentation, malposition, preterm delivery, placenta praevia and severe post partum haemorrhage occur in half of the patients. Symptoms depend on the location, size, growth rate and relation with surrounding structures (Lev-Toaff, Coleman and Arger et al., 1987; Winer-Muram, Muram and Gellieson, et al., 1984). Ultrasound is a veritable diagnostic tool and while making an ultrasound diagnosis, it is important to determine size, shape, echogenicity and clear edge with the surrounding tissues. Myomectomy is a surgical procedure that removes visible fibroids from the uterine wall. It leaves the uterus in place and may, therefore, preserve the woman's ability to have children.



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The procedure is not usually done during a caesarean delivery because of the associated haemorrhage which may result to maternal mortality. Selective caesarean myomectomy can be done for those who have the expertise and are prepared for it (Davis, Ray-Mazumder and Hobel et al., 1990; Hasan, Arumugani and Sivanesaratnam, 1990).

Normal rapid uterine expansion that occurs during pregnancy is likely a more complex mechanism mediated in part by estrogen, progesterone, various growth factors especially platelet-derived growth factor and an increase in cells with Ki-67 antigens (Mendoza and Young, 1990; Kawaguchi, Fuji, Konishi et al., 1991). It is likely that during pregnancy, fibroid estrogen receptors are down regulated due to massive amounts of estrogen. Without effective estrogen receptors, this estrogen action in the fibroid epidermal growth factor binding is also decreased.

During the first trimester, fibroids of all sizes either remained unchanged or increased in size (early response due to increased estrogen). During the second trimester smaller fibroids (2-6cm) usually remained unchanged or increase in size, whereas larger fibroids become smaller (start of down regulation of estrogen receptors). Regardless of initial fibroid size, during the third trimester, fibroids usually remained unchanged or decrease in size. An accurate prediction of fibroid growth in pregnancy cannot therefore be precise (Poovathi, Ramalingam, 2016).

Several conclusions can be arrived at when considering fibroids and their relationship with pregnancy. The growth of the fibroid during pregnancy cannot be predicted. If there is implantation of a fertilized ovum over or in contact with a fibroid, there is increase likelihood of placenta abruption, miscarriages, preterm labour and post partum haemorrhage. Multiple fibroids are associated with an increased incidence of foetal malposition, labour dystocia and preterm labour. Degeneration of fibroids usually results in pain that may warrant hospitalization and there is an increased incidence of caesarean delivery.

## PATIENTS AND METHODS

This was a prospective study from 1st January, 2015 to December 31st, 2016 covering a period of 2 years at the Nigerian Navy Hospital, Calabar. The hospital provides services to, not only the military personnel but also to the civilian population within its neighborhood. Booking for antenatal care (ANC) is done weekly and the hospital books an average of 9 pregnant mothers per week. At booking, it is mandatory for the patient to do all the relevant investigations including an obstetric scan. All pregnant women with fibroids confirmed by ultrasonography with uterine fibroid of 5 cm and above were included in this study and followed up closely during subsequent ante natal visits until delivery and postpartum. Approval of the study was given by the hospital research and ethics committee and informed consent was obtained from all patients that participated in the study. A questionnaire was used for the collection of biodata and socio-demographic data and antenatal complications of pregnancy. Clinical examination and ultrasonographic confirmation of fibroid, its position and size were measured and recorded in the performa. The maternal and foetal outcome, the complications encountered and indication for caesarean section were recorded. The data was analyzed using EPI-info 7 and presented in tables in percentages.


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## RESULTS

A total of 889 women booked for ante care (ANC) over the period and 72 were found to have uterine fibroid in pregnancy greater than 5cm in various sites giving a prevalence of 8.1%. Uterine fibroid was commonest among women of age group of 30-39 years 39 (54.2%) as compared to those above 40 years 11 (.15.3%), majority of whom may be approaching peri-menopause (table 1). This study found that fibroid was more common in nulliparous women 32(44.4%) as against multiparous women who might have started giving birth to children at an earlier age 10 (13.9%). The site, number and size of the fibroids contribute to the symptoms. In this study, 48(46.7%) were subserous, 16(22.2%) were intramural and 8(11.1%) were submucous. Majority of fibroids 58(80.6%) were multiple, of various sizes while 14(19.4%) were single. The sizes of the fibroids ranges from 5cm x 5cm to as large as 15cm x 25cm. Women with tertiary level of education contributed the majority of women with fibroid in pregnancy 27(37.5%) while those with no formal education contributed 6(8.3%). Uterus that are delayed in harboring a foetus because of pursuit of education or career tends to compensate themselves with fibroids. Career women and civil servants together contributed 58(80.6%) of fibroids in pregnancy.

**Table 1: The socio-demographic characteristics of patients with uterine fibroids in pregnancy**

| Variables | Frequency | Percentage% |
|---|---|---|
| **Age (yrs)** | | |
| 20-29 | 32 | 30.5 |
| 30-39 | 39 | 54.2 |
| >40 | 11 | 15.3 |
| **Parity** | | |
| 0 | 32 | 44.4 |
| 1 | 18 | 25.0 |
| 2 | 12 | 16.7 |
| 3 and above | 10 | 13.9 |
| **Educational status** | | |
| No formal Education | 6 | 8.3 |
| Primary education | 14 | 19.5 |
| Secondary education | 25 | 34.7 |
| Tertiary education | 27 | 37.5 |
| **Occupation** | | |
| Trader/Business | 38 | 52.8 |
| Civil servant | 20 | 27.8 |
| Artisans | 12 | 16.7 |
| Farmers | 2 | 2.7 |

Findings in table 2 showed that over 33.3% of patients with fibroid in pregnancy complain of abdominal pain while 28(38.9%) remained relatively asymptomatic. The severity of the pain varies and warranted hospitalization in some cases. Placenta praevia was noticed in 2 (2.8%) of the cases following bleeding per vaginaam. Recurrent miscarriages was reported in 3(4.2%) of the cases, for which myomectomy was advised before the next conception. Some patients


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presented with more than one symptom. There is a comparable intervention by caesarean delivery 37 (51.3%) when compared with vaginal delivery 35 (48.6%).

Haemorrhage accounts for the most common postpartum complication of fibroid in pregnancy after delivery 48 (66.7%), the major cause being uterine atony followed by retained placenta. 28(38.9%) of the patients with fibroid in pregnancy delivered without any complication.

**Table 2: Maternal outcome of fibroid in pregnancy**

| **Outcome** | **Frequency** | **Percentage** |
|---|---|---|
| **Asymptomatic** | 28 | 38.9 |
| **Ante partum complications** | | |
| Pain | 24 | 33.3 |
| Pressure/discomfort | 14 | 19.4 |
| Preterm labour | 4 | 5.6 |
| | | |
| Vaginal bleeding (praevia) | 2 | 2.8 |
| **Delivery outcome** | | |
| Caesarean sections | 37 | 51.3 |
| Emergency C/S | 23 | 31.9 |
| Elective C/S | 14 | 19.4 |
| Vaginal delivery | 35 | 48.6 |
| Failure to progress/dystocia | 12 | 16.7 |
| Foetal distress | 8 | 11.1 |
| Preterm Delivery | 4 | 5.6 |
| PROM/cord prolapsed | 3 | 4.2 |
| **Post partum outcome** | | |
| Haemorrhage | 48 | 66.7 |
| Retained placenta | 5 | 6.9 |
| Sepsis | 2 | 2.8 |
| Intestinal obstruction | 1 | 1.4 |
| Maternal mortality | 1 | 112/100,000 |

Failure to progress in labour due to various factors and/or labour dystocia accounts for the greatest proportion of cases of emergency caesarean sections while oblique/unstable lie due to a lower uterine segment fibroid accounted for the greater cases of elective caesarean sections (table 3).

**Table 3: Reasons for caesarean sections**

| **Type** | **Reason** | **Frequency** | **Percentage** |
|---|---|---|---|
| **Emergency** | Failure/ labour dystocia | 12 | 16.7 |
| | Foetal distress | 8 | 11.1 |
| | PROM/cord prolapse | 3 | 4.2 |
| **Elective** | | | |
| | Breech presentation | 6 | 8.3 |
| | Oblique/unstable lie | 8 | 11.1 |


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Table 4 shows some of the common complications of the foetus as a result of fibroid in pregnancy. Foetal distress was the commonest complication observed 8 (11.1%), followed by preterm delivery 4 (5.6%). Foetal demise accounted for 2 (2.8%) while cord prolapse occurred in 3 (4.2%).

**Table 4: Foetal Outcome**

| Event | Frequency | Percentage |
|---|---|---|
| Foetal distress in labour | 8 | 11.1 |
| Preterm delivery | 4 | 5.6 |
| Cord prolapsed | 3 | 4.2 |
| Foetal demise | 2 | 2.8 |
| Deformity (limb) | 1 | 1.4 |

## DISCUSSION

Pregnancy with uterine fibroid is a potentially serious problem. In some cases it does not affect the pregnancy outcome but in other cases can result in breech presentation, malposition, preterm delivery, placenta praevia and severe post partum haemorrhage depending on the size of fibroids, location, number and site of placental attachment. Seventy two of our patients in this study had leiomyomas giving an incidence of 8.1% which compares with some studies (Mendoza and Young, 1990; Kawaguchi, Fuji, Konishi et al., 1991). According to a study in a random sampling of women aged 35 to 49 who were screened by sonography found that by age 35 the incidence of fibroids in the general female population was 60% in African-American women, the incidence increases over 80% by age 50 (Day Baird, Dunson, Hill, Cousin and Schechman, 2003). The role of fibroids in early pregnancy loss varies in several studies from 4.2% in this study to 9.7% in western Nigeria (Otogbo, Ezechi, Loto and Ezeobi, 2011) and 32.3% in northern Nigeria (Emembolu, 1987). It should be noted however that there are several other factors responsible for early pregnancy losses. Fibroid on its own may not cause infertility but depending on its size and sites (submucous), it may interfere with sperm motility and also affect implantation.

A total of 32 (44.4%) of patients were nulliparous and 18 (25%) were para 1, most of whom had been trying to become pregnant until recently. The association of fibroids with nulliparity has been reported but may occur in multiparous females with varying frequency (Kawaguchi, Fuji, Konishi et al., 1991). Fibroid are more common in nulliparous or relatively infertile women, but it is not known whether sterility causes fibroid or vice versa or whether both conditions have a common cause (Otogbo, Ezechi, Loto and Ezeobi, 2011). The clinical features of uterine fibroids are dependent more on their location rather than their size, as well as whether they are undergoing degenerative changes or not. About 25% of patients with fibroids will exhibit symptoms whereas many with very large fibroids may be asymptomatic (Otogbo, Ezechi, Loto and Ezeobi, 2011). The common clinical presentation of fibroid includes abdominal swelling, pressure effects on the ureters, bladder and rectum, menorrhagia, infertility and miscarriages as well as pain (Ogedengbe, 2003; Haney, 2008). In this study 38.9% remained asymptomatic while 61.1% showed various symptoms during the antenatal, labour and post delivery. The hormonal changes in pregnancy and the developing foetus may place an additional burden on the fibroid making it to become symptomatic. The major symptom of fibroid in pregnancy in this study is pain 24 (33.3%) followed by pressure and pelvic discomfort 18 (25%).


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A large number of fibroids are detected on routine unrelated examination in the non-gravid women but in the obese and gravid women, ultrasound scan plays an important role (Mendoza and Young, 1990). When combined, there is a higher rate of delivery intervention by caesarean section (51.3%) when compared to vaginal delivery 35 (48.6%). There was a higher rate of emergency caesarean section 23 (31.9%) compared to elective 14 (19.4%).

Haemorrhage was the major post partum complication encountered in the study 48 (66.7%) after delivery which resulted to the death of 1 (1.4%) woman, giving a maternal mortality of 112/100,000 of booked women for this study. Foetal demise occurred in 2 (2.8%) and could not conclusively be as a result of the fibroid, but may be due to implantation on submucous fibroid with poor blood supply and possibly abruption placenta.

Although uterine fibroids are generally considered to be a slowly growing tumour, in 20-40% of women at the age of 35 and above, uterine fibroids of significant sizes with severe clinical symptoms are commonly seen. In this study it was observed that 50 (69.5%) of women with fibroid in pregnancy were 30 years and above.

Conservation treatment with analgesics, re-assurance and supportive therapy almost always is adequate in managing symptoms of uterine leiomyoma co-existing with pregnancy (ACOG Practice Bulletin, 2008). Occasionally, surgery during pregnancy is indicated for torsion of an isolated, pedunculated leiomyoma on a narrow stalk, Myomectomy should not be performed during pregnancy because of the risk of uncontrollable haemorrhage and risk of foetal loss (Day Baird, Dunson, Hill, Cousin and Schechman, 2003). Intestinal obstruction occurred in 1(1.4%) of the patients in this study and had caesarean section. This was a rare occurrence.

## CONCLUSION

Pregnancies with uterine fibroid are high risk. Most had adverse affect on the course of pregnancy and labour depending upon their location and size. This study found fibroid in pregnancy in 72 (8.1%) of the total women who booked for antennal care in this centre. Uterine leiomyomas in pregnancy predisposes the patient to increased risk of caesarean delivery, breech presentation, malposition, preterm delivery, placenta praevia and severe post partum haemorrhage. Where it is feasible, myomectomy should be done for a fibroid above 14 weeks size prior to pregnancy to reduce some of the complications encountered in pregnancy, labour and delivery. Availability of crossed matched blood for transfusion, emergency intervention interval of less than 30mins and a high level of emergency preparedness significantly will reduce maternal death.

**Limitations of the study:** All the patients who booked for ANC in this centre did pre booking obstetrics scan which however was done within and outside the hospital. There is therefore the issue of individual interpretation error in reporting and meeting diagnostic criteria.

**Conflict of interest**: There was no conflict of interest in this study



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