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ORIGINAL ARTICLE

Assessment of adverse pregnancy outcomes in women presenting with uterine fibroids at a tertiary care hospital.

Mehnaz Khakwani[1], Rashida Parveen[2], Hira Rasheed[3]

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ABSTRACT… Objective: To determine frequency of adverse pregnancy outcomes in women presenting with uterine fibroids at a tertiary care hospital. **Study Design:** Descriptive Case Series. **Setting:** Department of Obstetrics & Gynaecology, Nishtar Hospital, Multan. **Period:** 25th November 2020 to 24th June 2021. **Material & Methods:** The detailed history was taken and patients were examined thoroughly. Data was collected for basic demographics i.e. Age, parity, BMI, duration of complaints and pregnancy outcomes. Patients were booked and followed up for the pregnancy outcomes like preterm labour and post-partum hemorrhage. **Results:** Mean age of our study cases was noted to be 28.98 ± 3.68 years. Mean duration of fibroids was noted to be 26.46 ± 8.11 months and most of them i.e. 86 (53.8%) presented with duration of disease for more than 2 years. Mean body mass index of our study cases was noted to be 26.21 ± 2.14 kg/m^2 and obesity was present in 47 (29.4 %) of our study cases. Mean gestational age was noted to be 37.11 ± 3.09 weeks and 100 (62.4%) had gestational age more than 34 weeks. Large fibroids were observed in 21 (13.1 %), small in 48 (30 %), single fibroids in 39 (24.4 %), multiple fibroids in 39 (24.4 %), intramural in 7 (4.4%) and submucosal in 6 (3.8%). Preterm labor was noted in 88 (55 %) and Postpartum hemorrhage was noted in 66 (41.3 %) of our study cases. **Conclusion:** Uterine fibroids are associated with significantly increased adverse pregnancy outcomes as the frequencies of preterm births and postpartum hemorrhage were very high in our study. Preterm births were significantly associated with age, parity, obesity and characteristics of fibroids. Postpartum hemorrhage was significantly associated with age, parity, residential status, obesity and characteristics of fibroids.

Key words: Preterm Birth, Postpartum Hemorrhage, Uterine Fibroids.

INTRODUCTION

Uterine fibroids are the monoclonal diploids that are highly prevalent tumors encountered in gynecological practice which originate from the uterine smooth-muscle tissues. These are generally specified by excessive synthesis of extracellular matrix.[1] Uterine leiomyomata affects up to 80% of all women during the years of their reproductive ages and they have capability to develop into large sized lesions (which may range from 10 mm to as big as 20 cm).[2] Majority of these patients are diagnosed between the ages of 25 and 55 years.[3] These leiomyomas are primarily categorized in four types based upon their location in uterus; Subserous, intramural, Submucous and pedunculated. The majority of women with uterine leiomyoma are asymptomatic and fibroid tumors often remain undiagnosed. Symptoms often depend on size of fibroids, location and quantity of fibroids while their clinical presentation can be described in 3 major categories of symptoms such as abnormal uterine bleeding[4], pressure/pain and reproductive issues. The diagnostic features may include detailed history, abdominal and/or vaginal examination, ultrasonography, hysteroscopic examination and radiological imaging such as MRI.[5,6] Ultrasonography is useful to measure the size, localization, number, structure, their association to the endometrial cavity of fibroid and assessment of adnexal masses if they are not separately palpated.[7] The uterine fibroids are also associated with other diseases.[8,9]

1. MBBS, FCPS, Professor Obstetrics and Gynecology, Nishtar Medical University, Multan.
2. MBBS, FCPS, Assistant Professor Obstetrics and Gynecology, Nishtar Medical University, Multan.
3. MBBS, Postgraduate Registrar Obstetrics and Gynecology, Nishtar Medical University, Multan.

Correspondence Address:
Dr. Rashida Parveen
Department of Obstetrics and Gynecology
Nishtar Medical University, Multan.
drrashida83@gmail.com

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Treatment options regarding management of symptomatic leiomyoma may include; hysterectomy, myomectomy, uterine artery embolization and pharmacological interventions which are helpful in reducing symptoms.[10] Myomectomy remains the mainstay for those females that have desire to preserve their fertility. Hysterectomy can be carried out abdominally, vaginally, or laparoscopically.[11] In literature reported from all parts of the world have described various complications with variables rates in pregnancies implicated with fibroids which are predominantly more prevalent in large sub-mucosal and retro placental fibroids.

Lam et al[12] reported that preterm labour was more prevalent in pregnant women having multiple fibroids when compared with those having single fibroids (18% vs 6%) while Cesarean section (54% vs 45%) and PPH was (15% vs 12%). Maliwad AK and his associates has found in another study that in patients with large fibroids, results in preterm labour 11.7% and PPH by 35.2%.[13]

Owing to the higher risks of complications, pregnancies complicated with fibroids have been topic of great interest for researchers across the world for many years but impact of these complications on pregnancy outcomes have not been well described in our local studies while available literature has pointed towards higher rates of preterm births and postpartum hemorrhage in these patients. Therefore, the aim of this study was to determine the frequency of pregnancy outcomes due to uterine fibroids in our general population. This study will pave the way to manage the pregnancy with uterine fibroids more carefully to prevent the adverse outcomes in our general population.

MATERIAL & METHODS

After permission from the concerned authorities and ethical committee (23483/NMU&H) and informed consent, patients (n = 160) were selected from outdoor-patient department of obstetrics of Nishtar hospital, Multan from November 2020 to June 2021. According to the inclusion and exclusion criteria in this descriptive case series using non – probability purposive sampling. Sample size was calculated using EPI info software using P = 11.7 % anticipated proportion of preterm birth with 5 % margin of error and 95 % CI. The pregnant women aged between 18 to 40 years having gestational age more than 28 weeks, presenting with the group of symptoms suggesting fibroid uterus like pelvic pressure or pain, frequent urination (>6 times a day), constipation, pelvic ultrasound findings of hypoechoic mass, and calcification were included. Patients with malignancies in uterus, current of previous history of chemotherapy or radiotherapy, history of surgery for adnexal pathologies and with congenital anomalies were excluded from our study. All patients were assessed for having fibroid uterus. All the patients were assessed by consultant gynecologist with more than 2 years of experience after fellowship. Data was collected for basic demographics like Age, parity, BMI and duration of pregnancy and complaints. An obstetrical ultrasound was carried out for confirmation of singleton pregnancy, size and number of fibroids and to ascertain proper gestational age. Patients were booked and followed up until the pregnancy outcomes like preterm labour and post partum hemorrhage.

Data was analyzed using SPSS version 22. Mean and standard deviation was calculated for quantitative data like age, duration of complaints and BMI. Frequency and percentages were calculated for analysis of qualitative data like age groups, obesity, residential status, characteristics of fibroids, preterm labor and PPH.

RESULTS

A total of 160 pregnant women having uterine fibroids were included in our study with their mean age was noted to be 28.98 ± 3.68 years (ranging 23 years to 38 years). Majority of our study cases i.e. 95 (59.4%) were aged in the range of 20 – 30 years. Of these 160 study cases, 59 (36.9%) belonged to rural areas while 101 (63.1%) belonged to urban areas. Mean parity was 2.16 ± 1.05 and parity up to 3 was noted in 120 (75.0%). Mean duration of fibroids was noted to be 26.46 ± 8.11 months and most of them i.e. 86 (53.8%) presented with duration of disease for more than 2 years. Mean body mass index of our

study cases was noted to be 26.21 ± 2.14 kg/m^2 and obesity was present in 47 (29.4 %) of our study cases. Mean gestational age was noted to be 37.11 ± 3.09 weeks and 100 (62.4%) had gestational age more than 34 weeks.

Large fibroids were observed in 21 (13.1 %), small in 48 (30 %), single fibroids in 39 (24.4 %), multiple fibroids in 39 (24.4 %), intramural in 7 (4.4%) and submucosal in 6 (3.8%). Preterm labor was noted in 88 (55 %) of our study cases. Postpartum hemorrhage was noted in 66 (41.3 %) of our study cases.

DISCUSSION

The proportion of uterine fibroids ranges from 0.1 % to 12.5 % while their incidence increases with maternal age during pregnancy and their diagnosis is neither simple nor straightforward. They are associated with significant increase in the perinatal complications like fibroids which include "ante-partum haemorrhage, acute abdomen, laparotomy, preterm labour, foeto-pelvic disproportion, malposition of the foetus, retention of the placenta, postpartum haemorrhage, red degeneration, dysfunctional labour, retained placenta, and retained products of conception, intra uterine growth restriction (IUGR)" with varying incidence of these complications in different population subsets.[14]

Our study comprised of a total of 160 pregnant women having uterine fibroids. Mean age of our study cases was noted to be 28.98 ± 3.68 years. Majority of our study cases i.e. 95 (59.4%) were aged in the range of 20 – 30 years. Radhika et al[15] from India also reported 28.9 years mean age of the pregnant women with uterine fibroids. Javed et al[16] from Lahore also reported uterine fibroids in the same age range showing compliance with our findings. Noor et al[17] from Abbottabad also reported that majority of pregnant women having uterine fibroids belonged to age group of 20 – 30 years. Kokab et al[18] also reported uterine fibroids in pregnant women in the same age group. Shavell et al[19] reported 32.2 years mean age, close to our results.

Of these 160 study cases, 59 (36.9%) belonged to rural areas while 101 (63.1%) belonged to urban areas. Mean parity was 2.16 ± 1.05 and parity up to 3 was noted in 120 (75.0%). Kokab et al[18] and Noor et al[17] from Abbottabad also reported similar results. Shavell et al[19] reported mean parity was 1.6 and mean gravidity was 3.8 which is similar to our findings.

Mean body mass index of our study cases was noted to be 26.21 ± 2.14 kg/m^2 and obesity was present in 47 (29.4 %) of our study cases. Shavell et al[19] reported mean BMI to be 34. 2 ± 13.6 kg/m^2 which is quite higher than being reported in our study. Noor et al[20] from Peshawar has also reported similar results.

Large fibroids were observed in 21 (13.1 %), small in 48 (30 %), single fibroids in 39 (24.4 %), multiple fibroids in 39 (24.4 %), intramural in 7 (4.4%) and submucosal in 6 (3.8%). Radhika et al[15] from India reported single and multiple fibroids predominating in pregnant women. Ciavattini et al[21] has also reported similar trends which are in consistency with our study results.

Mean gestational age was noted to be 37.11 ± 3.09 weeks and 100 (62.4%) had gestational age more than 34 weeks. Preterm labor was noted in 88 (55 %) of our study cases. Shavell et al[19] reported mean 36.5 ± 5 weeks mean gestational age. Similar results were reported by Noor et al[17] from Abbottabad. Noor et al[20] from Peshawar also reported that uterine fibroids resulted in 73.3 % of pregnancy complications of which major one was preterm labor showing consistency with our study results. Ciavattini et al[21] also reported preterm labor being more common in large uterine fibroids similarly our study results also indicated large fibroids were significantly associated with preterm labor.

Postpartum hemorrhage was noted in 66 (41.3 %) of our study cases. Javed et al[16] reported 23 % postpartum hemorrhage in women with uterine fibroids. Noor et al[17] from Abbottabad reported 34 % PPH which is close to our study results. Majeed et al[22] from Lahore also reported PPH was high in women with uterine fibroids.

CONCLUSION

Uterine fibroids are associated with significantly increased adverse pregnancy outcomes as the frequencies of preterm births and postpartum hemorrhage were very high in our study. Preterm births were significantly associated with age, parity, obesity and characteristics of fibroids. Postpartum hemorrhage was significantly associated with age, parity, residential status, obesity and characteristics of fibroids. All the clinicians treating such patients should always anticipate such adverse outcomes for early diagnosis followed by proper management.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

No.	Author(s) Full Name	Contribution to the paper	Author(s) Signature
1	Mehnaz Khakwani	Concept, Design & acquisition of data.	
2	Rashida Parveen	Conception, Design, Analysis.	
3	Hira Rasheed	Design, Acquisition of data.	