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FIBROID;
FREQUENCY AND FACTORS

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ABSTRACT... Introduction: Fibroids are the commonest benign tumors and it is estimated that they occur in 20-40% of women during their reproductive years. Reported risk factors consistent with the hormonal hypothesis include premenopausal status, younger at menarche, and obesity. Reported protective factors include parity and oral contraceptive use. This study was designed to give us the burden of fibroid and factors leading to fibroid. **Objectives:** To determine the frequency and factors leading to fibroid in women presenting with menorrhagia in outpatient department of gynae unit-I Civil Hospital Karachi. **Study design:** Cross sectional study. **Setting:** Department of Obstetrics and Gynaecology- I, Civil Hospital, Karachi. **Duration of study:** Six months from 12thMarch, 2011 to 11th September, 2011. **Subjects and methods:** A total of 121 patients meeting the inclusion criteria were enrolled in study. History was taken regarding duration and severity of menorrhagia and the factors leading to fibroid including age, parity, obesity and family history, women with a weight of 50kg or more were taken as obese. If findings consistent with fibroid as per operational definition were found on ultrasound then it was termed as -----fibroid +ve. **Results:** Mean (±SD) age was 27.9 (±5.3) years. Frequency of fibroid was found in 68 (56.2%) patients with menorrhagia. Family history fibroid was found in 51 (42.1%) women out of which fibroid was found positive in 30 (58.8%) women, that was the most common factor leading to fibroid in this study, followed by obesity 28 (35.4%) and nulliparous 10 (25.6%). **Conclusions:** Frequency of fibroid was found in 56.2% patients with menorrhagia. Family history of fibroid was most common risk factor leading to fibroid found in 58.8% women.

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INTRODUCTION

Uterine fibroids are the commonest benign tumors of the female genital tract, occurring in more than 50 % of women. However, they are symptomatic in less than 50% of the cases, presenting commonly as abnormal uterine bleeding, infertility or pressure symptoms[1]. They cause menorrhagia in 30% of patients that can produce anaemia. Fibroids are associated with infertility in 5% to 10% of cases, but when all other causes of infertility are excluded, they are responsible for infertility in 2% to 3% of cases. Also, the risk of repeated spontaneous abortions is estimated to be two to three times greater with fibroid than its absence[2]. Although the etiology of fibroids remains unknown, the ovarian hormones estrogen and progesterone are hypothesized to enhance fibroid growth. Reported risk factors consistent with the hormonal hypothesis include premenopausal status, younger age at menarche, and obesity[3]. Reported protective factors include parity and oral contraceptive use. Use of oral contraceptives at young ages was reported to be associated with an elevated risk in at least one study[4]. In one study, the prevalence of ultrasound – identified fibroid ranged from 4% in women 20 to 30 years of age and 11 to 18 percent in women 30 to 40 years of age. Studies report that 5.4 to 77 percent of women have uterine fibroid tumors, depending on the population studied and the diagnostic method used[5]. In a Japanese study of 140 women with uterine leiomyomas and 288 age-matched

controls, the incidence of positive first- degree family history among the cases was significantly greater than among the controls (31.5% versus 15.2%, respectively; $p<0.01$)[6]. A study conducted in Multan, out of 93 patients with menorrhagia fibroid was found in 51 (54.83%) in which 13.73% patients were nulliparous[7]. The rationale of this study is to give us the burden of fibroid and factors leading to fibroid. Based on this data a policy could be made so as to prevent the factors leading to fibroid.

Objective
To determine the frequency and factors leading to fibroid in women presenting with menorrhagia in outpatient department of gynae unit-I Civil Hospital Karachi.

MATERIAL & METHODS

Setting
Outpatient department of Obstetrics and Gynaecology-I, Civil Hospital Karachi.

Duration
Six months from 12th March 2011 to 11th September 2011.

Sample size
121

Sample size is calculated by using the following formula:

$$n = \frac{Z^2 x/2\, P(1-P)}{e2}$$

CL+ 95/5
P= 13%[7].
E= 6%
n= 121

Sampling technique
Non-probability, purposive sampling.

SAMPLE SELECTION
Inclusion criteria
All women presenting with menorrhagia of two months or more duration with ages between 20-40 years, irrespective of its severity.

Exclusion criteria
1. Known cases of fibroid,
2. Who are pregnant,
3. Have thyroid disease
4. Liver disorder or any clotting disturbances.

Study design
Cross sectional study.

DATA COLLECTION PROCEDURE
Patients meeting the inclusion criteria attending outpatient department of obs and gynae civil hospital Karachi were enrolled in study after taking informed consent. History was taken regarding duration and severity of menorrhagia and the factors leading to fibroid including age, parity, obesity and family history. Weight of the women was recorded. Women with a weight of 50 kg or more were taken as obese. Ultrasound was done by sonologist whose experience was greater than 2 years. If findings consistent with fibroid as per operational definition were found on ultrasound then it was termed as fibroid +ve. These findings were entered in Proforma .

DATA ANALYSIS PROCEDURE
The collected data was analyzed with the help of computer programmed SPSS version 16.0 mean and S.D was calculated for quantitative variables like age and duration of symptoms. The frequencies and percentages were calculated for the quantitative variable like fibroid, age, parity, family history of fibroid and obesity. Stratification was done with regards to age, duration of symptoms and severity of menorrhagia to see effects of these on outcome.

RESULTS
A total of 121 women presenting with menorrhagia of 2 months or more duration with ages between 20- 40 years were included in this study. Mean(±SD) age of women was 27.9 (±5.3) years. Majority 68 (56.2%) of women had age between 21 – 30 years. There were 56 primiparous (46.3%) and 26 (21.5%) women were multiparous while 39 (32.2%) women nulliparous. Mean (±SD) weight of women was 58.1(±10.1) kg. Out of 121 women, 79 (65.3%) women were obese (weight > 50kg)

(Table -I).

Mean (±SD) duration of menorrhagia was 3.9 (±1.9) months (table -II).

Out of 121 women, 46 (38%) women presented with severe menorrhagia, 40 (33.1%) women presented with mild and 35 (28.9%) women presented with moderate menorrhagia. (Table-III).

Frequency of fibroid was found in 68 (56.2%) patients with menorrhagia. (Table-IV).

Family history of fibroid was found in 51 (42.1%) women, out of which fibroid was found positive in 30 (58.8%) women, that was the most common factor leading to fibroid in this study, followed by obesity 28 (35.4%) and nulliparity 10` (25.6%) (Table-V).

Stratification was done with regards to age, duration of symptoms and severity of menorrhagia to see effects of these on outcome. High frequency of fibroid was found in the age between 21- 30 years (58.8%), in women with duration of menorrhagia > 4 months 40(71.4%) and in severe menorrhagia 32 (69.6%) respectively. 40 out of 56 women with duration of menorrhagia `4months had fibroids while 69.2% of women with severe menorrhagia found to have fibroids.

Age	Total	Percentage
21-30yrs	68	56.2%
31-40yrs	53	43.8%
Parity		
Nulliparous	39	32.2%
Primiparous	56	46.3%
Multiparous	26	21.5
Weight		
Obese 50kg	79	65.3%
Non-obese	42	34.7%

Table-I. Demographic data

Duration of menorrhagia (months)	Total	Fibroids	Percentages
2-4	65	28	43.1
>4	56	40	71.4

Table-II. Frequency of fibroid with respect to duration of menorrhagia (n=121)

Severity of menorrhagia	Total	Fibroids	%ages
Mild	40	15	37.5%
Moderate	35	21	60.0%
Severe	46	32	69.6%

Table-III. Frequency of fibroid with respect toseverity of menorrhagia (n=121)

Age (Years)	Total	Fibroids	%age
21-30	68	40	58.8%
31-40	53	28	52.8%

Table-IV. Frequency of fibroid in different age groups (n=121)

Risk factors	Total	Fibroids	%age
Nulliparous	39	10	25.6%
Obese	79	28	35.4%
Family History of Fibroid	51	30	58.8%

Table-V. Factors leading to fibroid in patients with menorrhagia (n=121)

DISCUSSION

Uterine fibroids are very common non-cancerous growths that develop in the muscular wall of the uterus[8]. Fibroids rarely develop into cancer (<0.1% of cases)[9]. Fibroids may occur in any of the three layers or coats of the uterus. As such, there could be intramural (within the perimetrium), submucosal (within the endometrium) and pedunculated i.e. suspended by a stalk within or outside the uterus. It has been estimated that uterine fibroids are the most common benign tumors found in women. They are clinically

obvious in 20- 25% of women of reproductive age[10]. Cramer and patel[11] estimated that fibroids could affect 77% of women in the United States. Fibroid has been implicated as a cause of infertility and accounted for 7.4% of that studied population. Most of the time fibroids grow in women of child bearing age; there have, however, been reports of rare cases in which young girls (prepubertal) had small fibroids).

In this study 121 women with menorrhagia and ages between 20-40 years were included. Mean (±SD) age of women 27.9 (±5.3) years. Proportion of fibroid was found in 56.2% patients with menorrhagia. According to Rybo et al investigation of women presenting with menorrhagia has shown the presence of fibroid in 50% patients which is comparable with incidence of fibroid in our study. A study conducted in Multan. Out of 93 patients with menorrhagia fibroid was found in 51 (54.83%)[7]. A prospective cohort study conducted in the Washington, metropolitan area randomly selected 1,364 subjects between the ages of 35 to 49 years from a prepaid health plan for ultrasound examination to detect uterine fibroids[2].Of this sample, 34.7% of the women were diagnosed uterine fibroids. Cramer and Patel[11] observed that neoplasms of the uterus are almost all leiomyomas found in 33% of women. There is slight disparity with incidence of fibroid in our study, perhaps because our study was done on menorrhagic patients and above incidence was in symptomatic as well as asymptomatic women. Among these affected females with fibroid 72.54% were between 20-40 years of age, comparing it with the observation made by Abraham15 According to him 50% of symptomatic patients with fibroid present before the age of 35 years. Family history of fibroid was found in 42.1% women out of which fibroid was found positive in 58.8 % women, that was the most common factor leading to fibroid in this study, followed by obesity 35.4% and nulliparous 25.6%.

In a Japanese study of 140 women with uterine leiomyomas and 288 age- matched controls, the incidence of positive first- degree family history among the cases was significantly greater than among the controls (31.5% versus 15.2%, respectively; $p < 0.01$)[6]. A study from Multan studied patients with menorrhagia, reported fibroid in 13.73% nulliparous women[7]. Same observation was made by Tasneem Ashraf[16]. She observed that 30 (26%) patients were para1-4 and 44 (38%) were para-5 or above. So total of 64% patients had parity more than one. Another study by Dareklewellyn[17] reported thatleiomyomas are more common in nulliparous or infertile patients.

Body mass index (BMI) is sssociated with increased risk of fibroids[18,19,20] in a dose-response relationship, in most studies[21]. Those that adjust for age and race or ethnicity found, at the extremes of their weight catagories, that BMI ≥25.4 compared with ≤ 20.3, and ≥ 30.0 compared with< 20.0 were associated with 1.5- and 2.3- fold increase in odds, respectively[21].

Stratification was done with regards to age, duration of symptoms and severity of menorrhagia to see effects of these on outcome. High frequency of fibroid was found in the age between 21-30 years, 58.8% inwomen with duration of menorrhagia> 4 months and severe menorrhagia 71.4% and 69.6% respectively. In one study, the prevalence of ultrasound- identified fibroid ranged from 4% in women of 20 to 30 years of age and 11 to 18 percent in women of 30-40 years of age[5]. According to Rybo et al[14] investigation of women presenting with menorrhagia has shown the presence of fibroid in only 10% of women which moderately heavy menstrual blood loss (80-100 ml) and in 40% of those with loss in excess of 200 ml.

A lot of health problems has been attributed to or linked with fibroids in women. Some of these problems include infertility, high body mass index (BMI), abnormal menstruation, recurrent menstruation, etc. Of importance is the fact that younger females are now presenting with fibroids. Obesity and positive family history, are predisposing factors in the incidence of fibroid tumors. Thus healthy lifestyle should be encouraged and routine check ups should be conducted so as to detect and possibly treat such

tumors early.

CONCLUSIONS

Frequency of fibroid was found in 56.2% patients with menorrhagia. Family history of fibroid was the most common factor leading to fibroid found in 58.8% of women, followed by obesity in 35.4% and nulliparity in 25.6%. These results showed that uterine leiomyoma (fibroids) has a relation with familial history of fibroid and obesity.

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