International Journal of Medical and Health Research
ISSN: 2454-9142
www.medicalsciencejournal.com
Volume 4; Issue 6; June 2018; Page No. 16-18

Clinicopathological study of uterine leiomyomas: A multicentric study in rural population

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Abstract
Background: Leiomyoma of uterus forms the most common type of benign tumor of uterus and also the most common pelvic tumor in women of reproductive age group accounting for 5-20%. They are dependent upon the steroid hormones for their growth and maintenance. Fibroids are usually asymptomatic, however depending on their size, location and hormonal effects, the commonest clinical manifestations are presented as menorrhagia and dysmenorrhoea. The risk of uterine leiomyomata increases as a woman's age at menarche decreases
Objective: To analyze the clinico pathological spectrum in cases of leiomyoma of the uterus
Material and Methods: A clinical study of 100 cases of fibroid uterus was conducted in the MDM. Hospital, attached to Dr. S.N. Medical College, Jodhpur from November 2015 to November 2016. The cases are selected by random allocation. On admission, detailed history, clinical examination, and investigations were recorded
Results: Leiomyomas are most commonly seen in women of child-bearing age. Majority of the patients (52%) were in 3rd decades of life. The most common mode of presentation was menstrual disturbances (76 %), among which menorrhagia was seen in 64 % of the cases. Intramural fibroids were the most common variety occurring in 60 % of the cases. Endometrial pattern was proliferative in 96 %. Cystic ovaries were seen in 8 % of the patients.
Conclusion: Fibromyoma is the most common benign tumor commonly affects the women of child-bearing age, mostly in the third decade. The most common presentation is menstrual disturbances. Intramural fibroid is the most common variety. The proliferative endometrium was commonly reported.

Keywords: leiomyoma of uterus, fibroid, endometrium, menorrhagia

Introduction

Leiomyoma of uterus forms the most common type of benign tumor of uterus and also the most common pelvic tumor in women [1]. It is commonly referred as myomas, fibromyomas, or "fibroids" because of their firm, fibrous character and high content of collagen. It encountered benign uterine neoplasms in women of reproductive age group accounting for 5-20% [2-4]. They are dependent upon the steroid hormones for their growth and maintenance as evidenced by the molecular studies that leiomyomas which exhibit more estrogen receptors than the normal myometrium [5]. The unopposed estrogenic stimulation manifests commonly as endometrial proliferative phase or hyperplasia [6]. Fibroids are usually asymptomatic, however depending on their size, location and hormonal effects, the commonest clinical manifestations are presented as menorrhagia, dysmenorrhoea, pain abdomen, mass abdomen and sometimes mass effects [7] the risk of uterine leiomyomata increases as a woman's age at menarche decreases. There is 70–90 % reduced risk in postmenopausal women [1] most studies also suggest that the woman's risk of these tumors increases, as the time from her most recent birth increases [8] History of infertility has been reported to be risk factors in uterine leiomyomata. It is believed that symptomatology depends on number, size, and location of tumor, although most leiomyomas are believed to be asymptomatic and progress slowly. Known risk factors for leiomyomas are black race, positive family history, nulliparity, and obesity. Uterine leiomyomas are thought to have an incidence in black women three fold that of white women. Vikhlyaeva and colleagues reported a familial predisposition for uterine leiomyomas. They showed that the fibroids were 2.2 times more 3frequent in first-degree relatives within families in which there were two or more family members with fibroids [9].

Due to their wide spectrum of clinical symptoms such as menstrual irregularities, pelvic pain, and infertility, they represent tremendous public health burden on women and economic costs to the society. They assume to be important particularly in our country as they are an important cause for anemia. This study was taken up to analyze the clinico pathological spectrum in cases of leiomyoma of the uterus at MDM Hospital to know the pattern of presentation, pathological correlation, type of fibroid endometrial changes and ovarian changes.

Material and Methods

A clinical study of 100 cases of fibroid uterus was conducted in the MDM. Hospital, attached to, Dr. S.N. Medical College Jodhpur, Rajasthan from November 2015 to November 2016 after approval of the Institutional Ethics Committee. The cases are selected by random allocation. On admission, detailed history, clinical examination, and investigations were recorded. At laparotomy, the size of uterus, number and situation of fibroids, and condition of tubes and ovaries were noted. In cases undergoing for myomectomy, tubal patency test was made by utilizing methylene blue. The ovaries were

conserved in cases of hysterectomies unless associated with pathology and in elderly patients. The removed specimen was cut anteriorly in the midline and near the cornu to inspect the cavity and seedling fibroids. The specimen was sent for histopathological examination of endometrium and myometrium. Microscopic examination was done to confirm the lesions for degenerative changes, associated endometrial pathology, associated with adenomyosis, and for changes in the ovaries, tubes, and cervix.

Results

A total of 100 patients were analyzed in this study. Leiomyomas are most commonly seen in women of child-bearing age, most commonly occurring in the third decade. In the present study, patients with leiomyoma were aged between 3rd and 7th decades of life. Majority of the patients (52%) were in 3rd decades of life. (Table 1) The mean age is 38.5 years. The most common mode of presentation was menstrual disturbances (76 %), among which menorrhagia was seen in 64 % of the cases while primary infertility was seen in 15 % of the patients. (Table 2)

In this study the size of the fibroid uterus varied from a few centimeters to 30 weeks of gravid uterus. It is seen that, about 68 % were of the size of 16 weeks gravid uterus, 23 % were of the size between 16 and 20 weeks. Among the uterine, about 93.9 % of the fibroid were in the body of the uterus and 6.1 % were cervical, intramural fibroid was the commonest variety comprising about 60% of the cases, 4% submucous, 20 % subserous and adenomyosis was found in 16 % of the cases. (Table 3)

Histopathological pattern of endometrium was studied. Proliferative endometrium was noted in 96%, while secretory changes were noted in 4%. The associated pathology in the adnexa and other pelvic structures was studied, which showed cystic ovaries in 8 % of the cases. A variety of cysts were noted such as simple serous cyst, follicular cyst, serous/ papillary cystadenoma, dermoid cyst, and corpus luteal cyst. (Table 4)

Table 1: Distribution of age of Leiomyomal patients

Sl. No.	Age	Number of Subjects	Percentage
1	30-40 years	52	52 %
2	41-50 years	37	37 %
3	51-60 years	08	08 %
4	61-70 years	03	03 %

Table 2: Incidence of Various Symptoms of Leiomyomal Patients

Sl. No.	Symptom	Number of Subjects	Percentage
1	MenstrualIrregularity	76	76 %
2	Menorrhagia	64	64%
3	Infertility	15	15%
4	Pain Abdomen	12	12%
5	Urinary Symptoms	06	06%
6	Pelvic Mass	09	09%

Table 3: Location and number of leiomyoma's in uterus

Sl. No.	Type	Number of Subjects	Percentage
1	Subserosal	20	20 %
2	Intramural	60	60%
3	Submucosal	04	04%
4	Adenomyosis	16	16%

Table 4: Incidence of histopathological pattern of endometrium

Sl. No.	Type	Number of Subjects	Percentage
1	Proliferative	96	96%
2	Secretory	04	04%
3	Hyperplasia	00	00%

Discussion

In this study we found that the incidence of leiomyoma is the highest in the third decade of life which is in consistent with the study conducted by Bhaskar Reddy [10] and Usha *et al.* [11] indicating that leiomyoma is a disease seen in women of child-bearing age; they are rarely found before puberty and cease to grow after menopause.

In this study the most common mode of presentation was menstrual disturbances (76 %), among which menorrhagia was seen in 64 % of the cases which is similar to the study by Chhabra and Jaiswal [12] Menorrhagia may occur when endometrial cavity surface area is expanded by submucous fibroids. However, often submucous fibroids are not present, but extensive uterine bleeding exists. The increased bleeding maybe due to either increased vascularity of the uterus or ovulatory cycles. Fibroids arising at various sites in the uterus could cause congestion and dilatation of endometrial venous plexuses by impinging and obstructing veins in the myometrium. The resultant obstruction could cause endometrial venule ectasia which may play a role in enhanced uterine bleeding [13].

In this study we found that the most common site of leiomyomas was intramural (60%) followed by subserosal leiomyomas (20%) which is in consistent with Abraham and Saldanha [14] observed intramural fibroids in 61.5%, Usha *et al.* [11] (77 %) and Chhabra *et al.* [15] (47 %)

In this study proliferative phase accounted for 66% were the commonest endometrial changes seen in association with uterine leiomyomas possibly due to hyper-estrogenic status in accordance with the study by, Purandare *et al*, [16] Sanyal *et al.* [17] and Chethana M *et al*. [18] The association with cystic ovaries and adenomyosis also indicates hyperestrogenism.

Conclusion

Fibromyoma (leiomyoma) is the most common benign tumor of the pelvis. It commonly affects the women of child-bearing age, mostly in the third decade and is most commonly seen in multipara. The most common mode of presentation is menstrual disturbances. Intramural fibroid is the most common variety. The proliferative and hyperplastic endometrium was commonly reported. The presence of proliferative endometrium, adenomyosis, and cystic ovaries all are indicative of hyperestrogenic state associated with development of fibroids.

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