

## BENIGN LESIONS IN ABDOMINAL HYSTERECTOMIES IN WOMEN PRESENTING WITH MENORRHAGIA

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### ABSTRACT

*Introduction: Menorrhagia is a common and debilitating problem. It is one of the major causes leading to hysterectomy in women all over the world. Menorrhagia is most commonly associated with benign pathologies like uterine fibroids, adenomyosis and pelvic infection. Rarely it is secondary to malignant pathology like endometrial carcinoma. Hysterectomy specimens form a major component of histopathological work in Pathology laboratories. The present study was undertaken in Pathology department, Allama Iqbal Medical College, Lahore to find out the morphology and frequency of different benign histopathological lesions in total abdominal hysterectomy specimens in patients presenting with menorrhagia.*

*Material and Methods: A descriptive case series study of one hundred total abdominal hysterectomies of patients presenting with menorrhagia carried out. Patients' data and detailed gross examination of specimens were recorded on a proforma. Representative sections were taken for microscopic examination and findings were recorded.*

*Results: The ages of the patients ranged from 30 – 59 years with maximum number (73%) of cases in 40 – 49 years age group. Macroscopically fibroids were seen in 69% cases in myometrium. Microscopic examination of cervix revealed features of chronic cystic cervicitis in 100 % cases. Endometrial histology showed disordered proliferation (41%) followed by hyperplasia (25%) as the commonest finding. Myometrium revealed foci of adenomyosis in 49% cases. The commonest neoplastic lesion was leiomyoma (69%).*

*Conclusion: In patients with menorrhagia the commonest neoplastic lesion was leiomyoma (69%), and commonest histopathological cervical lesion as chronic cervicitis (100%). Endometrial hyperplasia was the most common lesion (41%) on endometrial histology. Myometrium revealed foci of adenomyosis in 49% cases.*

*Key Words: Hysterectomy, Menorrhagia, Benign lesions.*

### INTRODUCTION

Menorrhagia is defined as prolonged (more than 7 days) or excessive (greater than 80 ml) uterine bleeding occurring at regular intervals. The term hypermenorrhea is a synonym.<sup>1</sup> Heavy menstrual bleeding significantly impairs the quality of life of many otherwise healthy women. Perception of heavy bleeding is highly subjective and management of the condition usually depends upon the degree of bleeding and discomfort found acceptable by the individual women.<sup>2</sup> Menorrhagia is most commonly associated with benign pathologies like uterine fibroids, endometrial polypi, adenomyosis and pelvic infection. More rarely it is secondary to malignant pathology such as endometrial carcinoma.<sup>3</sup>

Hysterectomy is one of the most common major surgical procedures practiced in the United States for non-obstetric reasons. In the United States 25% women undergo hysterectomy by the age of 60 years.<sup>4</sup> Hysterectomy is a traditional surgical treatment

for menorrhagia and is still the most frequently performed major gynaecological operation<sup>3</sup>. Many other studies also rank menorrhagia as the most common indication for hysterectomy.<sup>5-8</sup>

Hysterectomy specimens contribute a major component of histopathological work in our laboratories. The present study was undertaken to observe the morphology and frequency of different benign histopathological lesions in total abdominal hysterectomy specimens in 100 patients presenting with menorrhagia.

### MATERIAL AND METHODS

A descriptive case series of one hundred total abdominal hysterectomy specimens were included in the present study in Pathology department, Allama Iqbal Medical College, Lahore. Sampling was convenient and purposive. Total abdominal hysterectomy specimens for non-malignant causes resulting in menorrhagia were included in the present study

Caesarean and vaginal hysterectomies were excluded.

*Data collection and analysis*

*Procedure*

The hysterectomy specimen were kept in labeled jar containing 10% formal saline for fixation. Detailed gross examination of each specimen was carried out according to the proformas. Representative sections of 3 – 4 mm thickness were taken. Sections were processed in an automatic tissue processor. Haematoxylin and eosin staining was carried out on all sections. Histopathological examination of all sections was carried out using eight microscope.

**RESULTS**

A total of hundred abdominal hysterectomy specimens were studied in the Pathology department of Allama Iqbal Medical College, Lahore. To meet the objectives of study data was analysed into different tables.

The ages of the patients ranged from 30 – 59 years with maximum number 73 cases (73%) in 40–49 years age group (Fig. 1). 97 women (97%) were married. Of these 92 (94.8%) were parous. The parity ranged from 1 – 10 children with an average of 4 children.

The gross dimensions of uterus are shown in Table 1. On cutting open the uterus, and on gross examination the cervix revealed nebothian cysts in 61 cases (61%) ranging in size from 0.5 – 2 cm. Others were un-remarkable on gross examination. Microscopic examination of cervix revealed features of chronic cervicitis in 100% cases. Endometrial thickness varied from 0.2 – 2.8 cm with a mean of 0.431 cm. Among them 7 specimens showed endometrial polyps (7%), which were later confirmed on morphology.

Endometrial histology showed showed a total of 41 (41%) cases of disordered proliferation as the commonest pathology. This included 24 (24%) cases with histology of inadequate secretory phase and 17 (17%) cases of inadequate proliferative phase. This was followed by endometrial hyperplasia in 25 cases (25%) (Table 2).

Myometrial thickness ranged from 2 – 10 cm with a mean of 3.5 cm. Fibroids were seen grossly in 69 cases (69%). Microscopic examination of sections from myometrium confirmed the histology of leiomyoma in all 69 cases (69%) showing fibroid like growth on gross examination. Among the 69 ca-

Table 1: *Gross dimensions of uterus.*

Gross dimensions	Minimum (cm)	Maximum (cm)	Mean (cm)	Standard deviation (cm)
Length of uterus	7	18	11.67	2.217
Breadth of Uterus	4	14	7.7	2.3668
Width of uterus	2	9	4.38	1.8424

Table 2: *Endometrial histology.*

Endometrial histology	Frequency	Percentage
Inadequate secretory phase	24	24%
Inadequate Proliferative phase	17	17%
Hyperplasia, simple without atypia	14	14%
Hyperplasia, complex without atypia	8	8%
Hyperplasia, complex with atypia	3	3%
Total	100	100%

Table 3: *Dimensions of leiomyomas.*

Dimensions	Minimum (cm)	Maximum (cm)	Mean (cm)	Standard deviation
Length	1	15	5.05	3.537
Width	1	12	2.87	2.378

Table 4: *Location of leiomyomas.*

Location	Frequency	Percentage
Submucous	6	8.7%
Intramural	43	62.3%
Subserosal	6	8.7%
Submucous + Intramural	4	5.8%
Intramural + Subserosal	5	7.25%
All	5	7.25%
Total	69	100%

ses of leiomyomas, 51 cases (51%) showed leiomyomas alone, whereas 19 cases (19%) showed leiomyomas along with foci of adenomyosis (Fig. 2). The leiomyomas ranged in numbers from 1 – 8. Single leiomyoma was seen in 27 cases (39.13%). Multiple leiomyomas were seen in 42 of 69 cases (60.87%). The dimensions of leiomyomas are given in Table 3

and location of leiomyomas is shown in Table 4. Maximum number of leiomyomas (43 out of 69 cases), were intramural (62.3%). Adenomyosis alone was present in 30 cases (30%), and combined with leiomyomas in 19 cases (19%). So in total, adenomyosis was seen in 49 (49%) cases.

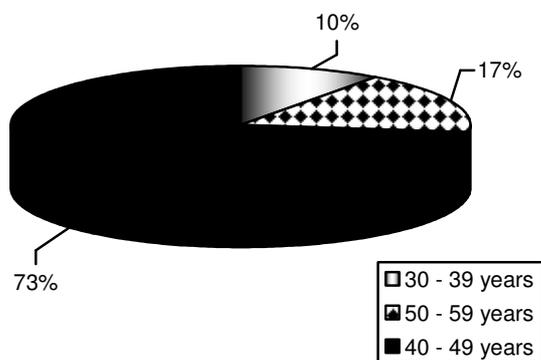


Fig. 1: Ages of Patients.

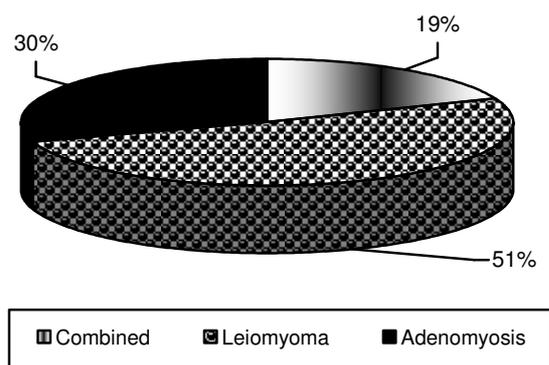


Fig. 2: Microscopic Myometrial Pathology.

**DISCUSSION**

Hysterectomy specimens contribute a major component of histopathological work in our laboratories. The present prospective study was conducted with an aim to study the frequency and morphology of benign lesions in a total abdominal hysterectomy specimens in patients presenting with menorrhagia.

The ages of the patients ranged from 30 to 59 years with mean of 44.58. Nearly the same age range of the patients undergoing hysterectomy was found by Tariq and Sarfraz.<sup>3</sup> The maximum number of patients 73 (73%) in the present study were in 40 – 49 years age group. The same results were reported by others.<sup>9,5,7,8</sup> Chronic cervicitis is an extremely common condition in adult females morphologically. It affects preferentially the squamocolumnar junction and endocervix and it may be accompanied by hyperaemia, oedema, fibrosis and metaplastic changes in the epithelium.<sup>10</sup>

In our study, the most common microscopic pathology in cervix was chronic cervicitis (100%). Talukder et al<sup>11</sup> found 87.7% cases of chronic cervicitis in their study.

A normal endometrial cycle is associated with changes in both endometrial glands and stroma that allow the pathologist to diagnose microscopically the phase of menstrual cycle.<sup>10</sup> It is controlled by rise and fall of pituitary and ovarian hormones. Alteration in hormonal control may result in a spectrum of disturbances including atrophy, abnormal proliferative and secretory pattern and hyperplasia.<sup>12</sup> Inadequate proliferative and secretory phase in recognized by disparity between endometrial pattern observed expected from the time of cycle. In our study 41% of cases were observed in this disordered proliferative pattern in total. 24% of these were in inadequate proliferative phase. This is in consistent with study carried out by Vakiani et al.<sup>19</sup>

Endometrial hyperplasia is another cause of abnormal bleeding. Endometrial hyperplasia deserves special mention because of its relationship to endometrial carcinoma.<sup>12</sup> It is most commonly seen during perimenopausal period. However it can be sometimes encountered in younger patients and even adolescents.<sup>10</sup> Twenty five cases (25%) of endometrial hyperplasia were found in the present study. Nearly similar were the findings of Akhter et al<sup>7</sup>. Other studies, however give a relatively low frequency of endometrial hyperplasia ranging from 3% to 7%.<sup>8,4,3</sup> Leiomyoma is the commonest uterine tumour and it is considered that benign neoplasms of the uterus are almost all leiomyomas.<sup>14</sup>

In the present study the commonest neoplastic lesion was also leiomyoma (69%). Among these 51% were leiomyomata alone and 19% were accompanied with foci of adenomyosis. This relatively high frequency of leiomyomas in the present study is consistent with many other studies on the subject with some variation in their percentages.<sup>6,7,3,4</sup>

In the present study, the size range of leiomyomas from 0.5 to 15 cm in width and 0.5 to 12 cm in length. Kamal et al<sup>13</sup> also observed great size variation. Leiomyomas vary in size from microscopic to multinodular uterine tumors that may weigh more than 50 pounds and literally fill the patient’s abdomen and produce clinical signs and symptoms.<sup>14</sup>

In the present study 42 a total of 69 cases of leiomyomas showed multiple distribution (60.87%). Other studies reveal a higher occurrence of multiple leiomyomas than single leiomyoma.<sup>15,16,13</sup>

Adenomyosis is a fairly frequent disorder in adult women characterized by the haphazard location of endometrial glands and stroma deep into the myometrium of the uterus.<sup>17</sup>

In the present study 49% of specimens showed adenomyosis in the body of uterus. 30% of these

showed adenomyosis alone and 19% showed adenomyosis with leiomyomas. The reported frequency of adenomyosis in other studies ranged from 9.81% – 56.5%.<sup>18,16,7,3</sup> The diagnosis of adenomyosis depends on the threshold used by the individual pathologists, some of whom are very liberal indeed.<sup>10</sup> According to Shaikh and Khan<sup>18</sup> this wide variation in the reported prevalence of adenomyosis is the result of different classifications used, are based on the invasion of myometrium by glands and stroma either in terms of proportion of uterine wall thickness or absolute measurement.

Some of the hysterectomy specimens show more than one lesion in the body of uterus, of which coexistence of adenomyosis and leiomyoma are the most common.<sup>11</sup> In the present study 19% hysterectomy specimens showed combined adenomyosis and leiomyoma in the body of uterus. Other studies also show these two combined pathologies in their studies with incidence ranging from 8.82%–32.9%.<sup>18,6,3</sup>

It is *concluded* that in patients presenting with menorrhagia the commonest neoplastic lesion was leiomyoma (69%). The most common histopathological cervical lesion was chronic cervicitis (100%). Endometrial histology revealed disordered proliferation (hormonal imbalance) as the most common lesion (41%). Myometrium revealed foci of adenomyosis in 49% cases.

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