

## Histopathological analysis of hysterectomy specimen; A single center study

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### Abstract

**Background:** Among gynaecological surgery hysterectomy is one of the commonest surgical procedure. The hysterectomy specimen is routinely sent for histopathological examination. At times, the histopathological diagnosis can be alarming, leading to major changes in the management of the patient.

**Objective:** To study the pattern of histopathological findings of hysterectomy.

**Place of study:** Hamdard University Hospital, Histopathology Department.

**Material and methods:** A retrospective study of 223 hysterectomy specimen received for histopathological examination was done. Age, history, clinical diagnosis, type of surgical intervention was recorded from patient's record file. All the specimens were fixed in 10% formalin and tissue sections were taken for processing and paraffin block preparation.

**Results:** Out of 223 specimen, the most common age group undergoing hysterectomy was 36-45 years (47.5%) followed by age group 46-55 years (30.9%). 29 (13.0%) belonged to the age group of 25-35 years and 19 (8.5%) were post-menopausal age group. The most common histopathological finding in age group 36-45 years which constitute maximum number of cases was leiomyoma and most common presentation was menorrhagia.

**Conclusion:** Histopathological examination of hysterectomy specimens helps to detect the cause and underlined pathology. There were lesser hysterectomies for malignancy and a higher rate of hysterectomies for benign disorders.

**Keywords:** Hysterectomy, histopathology, leiomyoma, menorrhagia

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### Introduction:

Hysterectomy is the most common gynecological surgical procedure despite of availability of medical and conservative surgical procedure.<sup>1</sup> Hysterectomy is normally recommended when other medical and surgical options failed or contraindicated.<sup>2</sup> In 1929 Charles Clay performed a first abdominal hysterectomy.<sup>3</sup> This surgery has its own psychological, emotional, medical and hormonal effects on a female life. Therefore benefits and strong clinical indication to perform this surgery should be clarified to patient. Hysterectomy is performed by abdominal and vaginal route. Healing time of vaginal hysterectomy may be shorter than abdominal surgery.<sup>4</sup> The success rate of hysterectomy procedure is high

in terms post-operative complications and improving quality of life of patients and provides a definitive cure for many diseases of the uterus as well as adnexa. The choice of approach and the rate of complications depend on the surgeon's expertise, the indication for surgery, the nature of the disease, patient characteristics and patient choice.<sup>5</sup> Currently, the mortality rate associated with hysterectomy is less than 0.1 percent. The most common indication of hysterectomy is dysfunctional uterine bleeding, fibroids and utero-vaginal prolapse. The lifetime risk of hysterectomies ranges from 20% to 35%.<sup>6</sup>

Women aged 30 to 54 most frequently undergo hysterectomy as compared to other age groups and contribute 74% of all hysterectomies.<sup>7</sup>

Table 1: Age group 25-35 years (n=29)

Diagnosis	n	%
Chronic cervicitis	08	27.5
Leiomyoma	07	24.1
Placenta accreta	06	20.6
Endometrial hyperplasia	03	10.3
Adenomyosis	02	6.8
Placenta Increta	01	3.4
U V Prolapse	01	3.4
No changes	01	3.4
Age group 36-45 years (n = 106)		
Leiomyoma	51	48.1
Adenomyosis	17	16.0
chronic cervicitis	14	13.2
Chronic endometritis	07	6.6
Placenta accreta	05	4.7
UV prolapse	03	2.8
No changes	03	2.8
Endometrial polyp	02	1.8
Endometriosis	01	0.9
Placenta percreta	01	0.9
Atrophic endometrium	01	0.9
Ectopic pregnancy	01	0.9
Age group 46-55 years (n= 69)		
Leiomyoma	38	55
Adenomyosis	11	15.9
UV Prolapse	07	10.1
Chronic cervicitis	05	7.2
No Changes	02	2.8
Endometrial polyp	02	2.8
Chronic endometritis	02	2.8
Endometrial hyperplasia	01	1.4
Endometrial carcinoma of uterus	01	1.4
Age group 56-65 years (n=19)		
U V Prolapse	07	36.8
Adenomyosis	05	26.3
Leiomyoma	04	21.0
No changes	01	5.2
Endometrial carcinoma of uterus	01	5.2
Chronic cervicitis	01	5.2

### Material and methods:

This was a retrospective study carried out in the Hamdard University Hospital, Department of Pathology. All hysterectomy specimens sent to the department of pathology from 1<sup>st</sup> July 2017 to 1<sup>st</sup> July 2020 were included in the study. Record of histopathological reports were ob-

tained from department of pathology. All data such as age, route of surgery, clinical indication and histopathological findings of hysterectomy specimen were noted. The data were analyzed by using SPSS version 20. The specimens were grossed by the pathologists. 10% formalin was used to fix the specimen and sections of tissue were taken for processing and paraffin block preparation. The paraffin blocks were sectioned and stained with H & E stain. Microscopic examination was performed for histopathological diagnosis. Histopathological diagnosis were analyzed and compared with clinical diagnosis.

### Results:

Total 223 cases were enrolled in the study who undergone the procedure of a hysterectomy. The age range of the patients were 25-65 years. Maximum number of cases were in the age group 36-45 years (n=106) followed by age group of 46-55 years (n=61). The most common cause of hysterectomy in both groups was leiomyoma (table-1). In group 36-45 years leiomyoma cases were 51 (48.1%). In group 46-55 years cases of leiomyoma were 38 (55%).

In the age group of 25-35 years total 29 cases (14.5%) were included in the study. Out of 29 cases 8(27.5%) patients presented with chronic cervicitis and 7(24.1%) patients presented with leiomyoma. Cesarean hysterectomy were performed in 7-patients out of which 6(20.6%) were found to be placenta accreta and 1(3.4%) was found to be placenta increta.

In the age group of 56-65 years total cases were 19(8.5%). Out of which 7(36.8%) were UV prolapse followed by 5 (26.3%) were adenomyosis.

Out of 223 cases, endometrial carcinoma of the uterus was found in 2 cases.

In our study abdominal hysterectomies were performed in 92% cases and vaginal hysterectomies were performed in 8% cases. All vaginal hysterectomies were performed for UV prolapse.

Out of 223 cases hysterectomies were performed

in 153 (68%) due to excessive and irregular bleeding. Abdominal mass was the reason for 41 (18.3%) cases. Hysterectomies performed for post-partum hemorrhages in 13 (5.8%) cases. Complain about something coming out of the vagina was seen in 11 (4.9%) cases. 5 (2.2%) cases presented with post- menopausal bleeding.

#### **Discussion:**

Hysterectomy is a common gynecological procedure worldwide.<sup>8</sup> In USA approximately one in nine women go through the procedure of hysterectomy and it is estimated that about 600,000 hysterectomy performed per year.<sup>9</sup> Rate of hysterectomy differs according to geographic association, patient clinical condition and physician related factors. 90% of gynecological surgeries are performed for benign conditions and the aim is to improve the quality of life of patients.<sup>10</sup> In Pakistan, although data is not available to correctly estimate the rate of hysterectomy but there has also been conflict regarding its higher rate because if the patient is not responding to medical treatment it is the only available option.<sup>11</sup> The outcome of this surgery is favourable with respect to patient's contentment, relief of symptoms and complete cure of diseases associated with uterus as well as adnexa.<sup>12</sup> Histopathological examination of surgical specimens carries ethical, legal, diagnostic and therapeutic significance.

In our study out of 223 hysterectomies majority were performed in the age range of 36-45 years, followed by 46-55 years and least in the age group of 56-65 years. These findings are similar to other study conducted in 2018 by Nilima D Lodha and Kiran S Bharti.<sup>13</sup>

In present study abdominal hysterectomies were performed in 92% cases and vaginal hysterectomies in 8% of cases which is similar to another study by Paul bhugra.<sup>14</sup> No organ damage occur during the procedure. This may be because all hysterectomies were performed by well trained and experienced consultant gynaecologists.

In our study common pathology in young age

was chronic cervicitis which was found to be 27.5% which is similar to other study conducted by Maroof Raza in which rate of chronic cervicitis was found to be 34.6%.<sup>15</sup> In contrast to our study, conducted by Saud Mohamed showed a quite high rate of chronic cervicitis i.e. 53.6%.

In present study leiomyoma is most common histopathological finding in age group 35-45 years and 46-55 years followed by adenomyosis. These findings are similar to other study by Roeda Shams.<sup>3</sup> A study conducted in 2017 showed that African descent, age greater than 40 years, nulliparity, obesity are the risk factors for fibroid.<sup>16</sup>

Severe intrapartum and postpartum bleeding due to placenta accreta is one of the serious complication of pregnancy. Studies revealed that 90% of pregnant female presented with placenta accreta require blood transfusion and out of these 40% require massive transfusion i.e. more than 10 units of packed cell required for transfusion. Hence, it is one of the major indication for caesarean hysterectomy.<sup>17</sup> Our study demonstrates that caesarean hysterectomy was performed in the age group 25-35 years and 36-45 years. The reason of caesarean hysterectomy in 84.6% patient was placenta accreta. In another study conducted by Xia-Pau also showed similar findings that placenta accreta was most the common cause of caesarean hysterectomy.<sup>18</sup>

In our study most common clinical presentation of the patient was menorrhagia followed by abdominal mass and something coming out of vagina and UV prolapse was the most common finding in age group of 56-65 years which is due to weakened pelvic floor and all vaginal hysterectomies were performed for UV prolapse. Which is similar to other study conducted by Arzoo Amin.<sup>19</sup>

In present study endometrial carcinoma was found in 2 (0.8%) cases this finding is similar to the study conducted by Patel A.S in which endometrial carcinoma was found to be 1%.<sup>20</sup> Our data suggest that the rate of endometrial carcinoma during a hysterectomy to treat benign

conditions is low, but one should always bear in mind that it may indeed occur.

#### Conclusion:

Hysterectomy is the most common gynecological procedure and histopathology is mandatory for confirming the pre-operative diagnosis and help in further management of patient. There were lesser hysterectomies for malignancy and a higher rate of hysterectomies for benign disorders.

**Conflict of interest:** None

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#### Role and contribution of authors:

Dr Sehrish Khurshid collected the data, statistical analysis, references and did the write up.

Dr Mehreen Ghias, collected the data and references also helped in introduction writing.

Dr Arif Memon critically review the article and made final changes.

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