

## CLINICO-PATHOLOGICAL CORRELATION OF HYSTERECTOMY SPECIMENS FOR ABNORMAL UTERINE BLEEDING IN RURAL AREA

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### HOW TO CITE THIS ARTICLE:

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**ABSTRACT: BACKGROUND:** Excessive and abnormal menstrual bleeding is the commonest symptom which brings a perimenopausal woman to the hospital. This age group is more amenable to serious conditions like genital cancer; hence this bleeding should be seriously evaluated to exclude the life threatening conditions by easily available investigating modalities like ultrasonography (USG) and biopsy before deciding their line of treatment. **OBJECTIVE:** To ascertain the most common pathology causing abnormal uterine bleeding by studying histopathological findings in hysterectomy specimens and correlating this with clinical and ultrasonography findings at a tertiary care centre in rural area of Madhya Pradesh. **PERIOD:** From April 2009 to March 2012. **SETTING:** Index Medical College Hospital and Research Centre, Indore. **MATERIALS AND METHODS:** In this prospective study, 288 hysterectomy specimens were included. The women were above 35years of age and reported to the obstetrics and gynaecology department with chief complaint of abnormal uterine bleeding. A correlation between age, parity, clinical findings, USG findings, pap's smear, mode of surgery and histopathological examination was done. **RESULTS:** The final histopathology of hysterectomy specimens exhibited leiomyoma as the most common lesion in 24.6% cases, adenomyosis in 12.15% cases, endometrial hyperplasia in 9%cases, fibroid combined with adenomyosis in 4.8% and malignancy in 0.34% cases. In 36% of cases there was no specific pathological lesion found on histopathological examination and these cases were labeled as DUB. **CONCLUSION:** Majority of women included in the study was perimenopausal and abnormal uterine bleeding was most commonly dysfunctional in origin in this age group. There was a very high clinico-pathological correlation when the clinical diagnosis was leiomyoma. **KEYWORDS:** Dysfunctional Uterine Bleeding · Leiomyoma · Adenomyosis · Endometriosis · Endometrial Hyperplasia

**INTRODUCTION:** Abnormal uterine bleeding is a common but complicated clinical presentation.<sup>1</sup> It includes bleeding due to pregnancy, iatrogenic causes, systemic conditions, genital tract pathology as well as dysfunctional uterine bleeding.<sup>2</sup> Normal menstruation is defined as bleeding from secretory endometrium associated with ovulatory cycles, not exceeding a length of five days. Any bleeding not fulfilling these criteria is referred to as abnormal uterine bleeding.<sup>3</sup>

Hysterectomy is one of the most common surgical procedures in gynaecology worldwide.<sup>4, 5</sup> It is one of the major methods of surgical management of abnormal uterine bleeding.<sup>1</sup> Hysterectomy is either by vaginal or by abdominal approach.<sup>6</sup>

Due to action of hormones, histology as well as disease pattern of uterus shows a wide variation. The clinical diagnosis of abnormal uterine bleeding gives an idea of the uterine morphology. Histopathology of the hysterectomy specimen is mandatory for ensuring and confirming diagnosis, which has great impact on the management of the patient.<sup>7</sup>

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Abnormal uterine bleeding is a common gynaecological problem worldwide. Its etiology, age wise distribution of disease, method of evaluation, medical or surgical management and differential diagnosis is well illustrated by Janet R Albers<sup>1</sup> et al in 2004.

According to Dicker, hysterectomy should be performed when the risk of preserving the uterus is greater than the risk of its removal or when there are disabling symptoms for which there is no successful medical treatment.<sup>4</sup> The improved hospital care, availability of blood transfusion, advanced anaesthesia and above all the advent of antibiotics has opened up a new era and thereby broadened the indications for hysterectomy with minimum postoperative morbidity and mortality.<sup>4</sup>

Hysterectomy is a successful operation in terms of symptom relief and patient satisfaction. It provides a definitive cure to many diseases involving the uterus as well as adnexa like fibroids, DUB, adenomyosis, endometriosis, pelvic inflammatory disease (PID), pelvic organ prolapse and malignancy.<sup>7</sup>

Histopathological examination of surgical specimens carries ethical, legal, diagnostic and therapeutic significance.<sup>7</sup>

**MATERIALS AND METHODS:** In this study 288 patients who underwent hysterectomy over a period of three years from April 2009 to March 2012 were recruited. All the patients belonged to the nearby villages covering a radius of 30km and covering approximately a population of 30,000 to 40,000 where no such study in the rural area has ever been undertaken.

Sole criteria of selection of patients was age above 35 years and where abdominal and vaginal hysterectomy was only carried out to alleviate symptoms of abnormal and excessive bleeding. Utero-vaginal prolapse cases were totally excluded from the study. All the cases after clinical assessment were sent for USG, either abdominal or transvaginal. These findings were also correlated with clinical diagnosis. All out efforts were made to treat the cases conservatively. Those who could not be diagnosed for cause of bleeding were qualified to be labeled as cases of Dysfunctional Uterine Bleeding (DUB). Those who were cured by conservative treatment were excluded from the study. Hence each and every case who was advised hysterectomy was carefully chosen by departmental discussion.

Most of the cases were found suitable for non-descent vaginal hysterectomy (NDVH) and finally it became the method of choice in such cases. Abdominal hysterectomy were only reserved for the cases where NDVH was considered difficult because of the size of the uterus, associated adnexal pathology or multiple scars of any previous surgery.

Specimens were sent to Histopathology Department in formalin with complete clinical details. All the patients had complete investigations, USG examination and pap's smear done before surgery.

**RESULTS:** During the three years period from April 2009 to March 2012, we analysed a total of 288 patients histopathologically after hysterectomy. A correlation between age, parity, clinical findings, USG findings, pap's smear, mode of surgery and histopathological examination was done.

The histopathological examination of endometrium prior to hysterectomy was reported in 68% cases and the most common finding was an endometrium with signs of hormonal imbalance. A high incidence of disease was found in females with high parity (three or above).

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Age	No. of Cases	Percentage
35 - 45	121	42.01 %
45 - 55	156	54.16 %
55 - 65	08	2.77 %
Above 65	03	1.04 %

**Table - 1: Age distribution**

The age of patients was between 35-70 years with mean age of 45 years. The maximum number of cases was found in the age group between 45 and 55 years.

Indication	Number	Percentage
DUB	104	36.11
FIBROID	76	26.4
ADENOMYOSIS	35	12.15
DUB with PID	40	14
ENDOMETRIAL POLYP	10	03.47
ENDOMETRIOSIS	10	03.47
CIN	8	02.77
DUB WITH OVARIAN TUMOR	5	01.73

**Table - 2: Indications for Hysterectomy**

Heavy menstrual loss was the most common indication of hysterectomy. The commonest indication of hysterectomy was DUB in our series which was 36%. The second most common indication was found to be leiomyoma of uterus which was 26%. Others were DUB with PID (pelvic inflammatory disease), adenomyosis, endometrial polyp, endometriosis, cervical intraepithelial neoplasia (CIN) and DUB with ovarian tumour.

In our study, all the patients underwent USG. Out of 288 cases, 78% could be diagnosed early by TAS (Trans Abdominal Sonography) but in 22%, where things were not very clear, TVS (Trans Vaginal Sonography) had to be performed. On USG, we could differentiate fibroids (which had typical whorled and variegated appearance) with adenomyosis which is seen as ill-defined region of mixed textural changes, presence of cystic areas, asymmetric myometrial thickening, streaky shadowing posteriorly and no calcifications.

In our series, the cases where we could not make the diagnosis, clinically or on USG, in those with endometrial thickening > 6mm, in post-menopausal bleeding, suspicious pap smears etc., they were subjected to endometrial biopsy before hysterectomy. Hence an effort was made to go for hysterectomy with fairly confirmed diagnosis.

TYPES OF HYSTERECTOMY:	NUMBER	PERCENTAGE
NDVH	190	65.97
NDVH WITH BSO:	008	2.77
NDVH WITH RIGHT SO:	016	5.5
NDVH WITH LEFT SO:	013	4.5
TAH	027	9.37
TAH WITH BSO:	016	5.5
TAH WITH RIGHT SO:	012	4.16
TAH WITH LEFT SO:	005	1.7
RADICAL HYSTERECTOMY:	001	0.34

**TABLE 3:- TYPES OF HYSTERECTOMY**

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217 patients had hysterectomy alone and 70 patients had hysterectomy with salpingo-oophorectomy. One patient had undergone Radical hysterectomy. The vaginal route was used in 227 (78%) cases and abdominal route in 61 (21. 18%) patients.

HISTOPATHOLOGICAL DIAGNOSIS	NUMBER	PERCENTAGE
Fibroid	71	24. 65
Adenomyosis	35	12. 15
Combined leiomyoma & adenomyosis	14	4. 86
Endometrial hyperplasia	26	9. 02
Endometrial polyp	10	3. 47
Atrophic endometrium	14	4. 86
Ovarian cyst / tumour	5	1. 7
CIN	8	2. 77
Endometrial Carcinoma	1	0. 35
No significant pathology seen	104	36. 11

TABLE 4:- Diagnosis on histopathology

In the final histopathology reports of hysterectomy specimens, fibroid was the most common finding reported in 24.6% cases, adenomyosis in 12.15% cases, endometrial hyperplasia in 9%, fibroid combined with adenomyosis in 4.8% and malignancy in 0.34% cases. In 36% of cases there was no specific pathology found on histopathological examination and these cases were labeled as DUB

**DISCUSSION:** The clinical presentation and the indication for abdominal or vaginal hysterectomy vary from benign to malignant diseases. Hysterectomy is the definitive treatment as it provides a permanent cure to many diseases which involve uterus as well as the adnexa e. g., fibroids, DUB, adenomyosis, endometriosis, PID and malignancy.

The mean age of hysterectomy in this study was 45years. The majority of diseases were seen in females with a parity of three or more. The commonest symptom in the study was menorrhagia. It is well known that perimenopausal age group and high parity are associated with more symptoms.

The most common histopathological finding was leiomyoma found in 71 cases, followed by adenomyosis which was found in 35 cases. The leiomyoma ranged in number from one to six. A single leiomyoma was seen in 35 cases. Multiple leiomyomas were seen in 36 cases. In our series, chronic cervicitis was associated with uterine pathology in most of the cases. Other less frequent lesions which were identified were endometrial hyperplasia, endometrial polyps and endometrial carcinoma. Some of the specimens showed more than one lesion in the body of the uterus which included the co-existence of leiomyoma and adenomyosis which was found in 14 cases.

The pathological examination confirmed the clinical diagnosis in all the cases of abnormal uterine bleeding due to leiomyoma, adenomyosis and endometrial polyps.

Archana Bhosle et al did a retrospective study of 112 perimenopausal women with abnormal uterine bleeding for a 6 months period. Fibroid uterus, DUB, and adenomyosis were the principal causes of abnormal uterine bleeding in this study<sup>15</sup>.

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Layla s Abdullah, in 2006, published the results of the study performed on 179 hysterectomy specimens and concluded that the most common lesion is leiomyoma (34%). The clinico-pathological correlation is 100% in all cases of leiomyoma, adenomyosis and endometrial polyps<sup>13</sup>.

Perveen and Tayyab reviewed 54 elective abdominal hysterectomies and revealed that menstrual disturbance/ DUB is a leading indication (27.7%) of hysterectomy and leiomyoma is the commonest (59.2%) pathological lesion<sup>14</sup>.

A prospective study was done by Khan and Sultana in 100 cases of abdominal hysterectomy performed over a period of 2 years. Their results showed that seventy-seven cases correlated clinically with histopathological diagnosis but 23 cases had a different diagnosis than the clinical one<sup>4</sup>. The most common indication as well as the most common lesion in their findings was leiomyoma.

In a 2 year study performed by Saleh and Fram in 137 women who underwent hysterectomy for a benign condition it was concluded that menorrhagia was the most common indication for hysterectomy. The clinical and pathological correlations are poor when abdominal pain or DUB was the pre-operative clinical diagnosis. However, there was a very high correlation when the clinical diagnosis was fibroid<sup>5</sup>.

Mahmoud Khaniki et al concluded that AUB was the chief complaint among women who underwent hysterectomy (62.2%), followed by abdominal mass (14.7%), abdominal/ pelvic pain (13.3%) and uterine prolapse (7.4%). Leiomyoma and adenomyosis were the most frequent diagnoses in hysterectomy specimens in an age dependent pattern with malignancy as the most frequent finding in the subjects aged 65 years and older<sup>16</sup>.

The indications for hysterectomy for menorrhagia in our study are consistent with those of other studies. In our study the commonest indication was DUB followed by fibroid.

The endometrial strip assessment on TVS provided information about the ovulatory stage of endometrium and had a 93% correlation with histopathological diagnosis. An endometrial thickening measuring < 4-7mm is rarely associated with cancer and endometrial biopsy may not be necessary in such patients. In our study all 288 patients underwent USG, out of which 78% underwent TVS. An endometrial thickening >8mm was found in 26 patients.

The commonest mode of surgical approach in majority of the cases in our study was NDVH. Vaginal hysterectomy is associated with a shorter hospital stay and allows a faster recovery and healing. Since vaginal hysterectomy causes lesser risk and complication we did NDVH in most of the cases where disease was confined to the uterus and cervix and weight of uterus was < 300gm.

Abdominal hysterectomy is a better choice in those cases where the size of uterus was too big to deliver it vaginally or in presence of old surgery scars on abdomen where there were chances of adhesions in the peritoneal cavity or in those cases with a doubt of malignancy so that abdominal cavity could be visualized thoroughly.

On receiving the histopathological reports leiomyoma was found to be the most common diagnosis followed by adenomyosis which was consistent with most other studies.

In our study a preoperative diagnosis of endometrial hyperplasia and endometrial carcinoma were found on diagnostic curettage.

In our series, out of 288 women 93% of preoperative diagnosis was confirmed by histopathology.

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**CONCLUSION:** Hysterectomy will remain a common gynaecological operation in both developing and developed countries. The clinical and pathological correlation was less consistent when abdominal pain or DUB was the pre-operative clinical diagnosis. However, there was a very high correlation when the clinical diagnosis was fibroid. All hysterectomy specimens should be sent for histopathological examination regardless of the pre-operative microscopic assessment of endometrial tissue because it is mandatory for confirming diagnosis and ensuring optimal management, in particular of malignant disease.

## REFERENCES:

1. Albers J, Hull S, Wesley R. Abnormal Uterine Bleeding; *Am Fam Physician* Apr 15, 2004; 69; 1915-1926.
2. Ara S, Roohi M. Abnormal Uterine Bleeding: Histopathological Diagnosis by conventional Dilatation and Curettage. *Professional Med J* Oct-Dec 2011; 18(4): 587-591.
3. Rosai J. Rosai and Ackerman's Surgical Pathology. Female Reproductive System. Edition Ninth; vol. 2; 2005.
4. Khan R, Sultana H. How does histopathology correlate with clinical and operative findings in abdominal hysterectomy. *JAFMC Bangladesh* Dec 2010vol. 6, No 2; 17-20.
5. Saleh S, Fram K. Histopathology diagnosis in women who underwent a hysterectomy for a benign condition. *Arch Gynaecol Obstet*. Nov 2011.
6. Thompson JD. Hysterectomy. In: Thompson JD, Rock JA, eds. *Te Linde's Operative Gynaecology*. 7th edition. JB Lippincott Company, Philadelphia, 1992. 663-738. D
7. Gupta G, Kotasthane D. Hysterectomy: A Clinico-Pathological Correlation of 500 Cases. *The Internet Journal of Gynaecology and Obstetrics*. 2010 Volume 14 Number 1. DOI: 10.5580/141b.
8. Bahar M, Emek D et al. The Pathologic Spectrum of Prolapsus Uteri: Histopathological Evaluation of Hysterectomy Specimens; *Journal of Gynaecologic Surgery*. Sept 23, 2005; Volume: 21. Issue 3: 133-135.
9. Speroff L, Glass R, Kase N. *Clinical gynaecologic endocrinology and infertility*. 6th ed. Baltimore: Lippincott Williams & Wilkins, 1999:201-38, 499, 575-9.
10. ChenB, GiudiceL; *Dysfunctional Uterine Bleeding*; *West J Med* 1998.
11. Fraser IS. Hysteroscopy and laparoscopy in women with menorrhagia. *AmJ Obstetric Gynaecology* 1990; 162:1264-1269.
12. Quinn M, Neale BJ, Fortune DW. Endometrial carcinoma in premenopausal women: a clinico-pathological study. *Gynecol Oncol* 1985; 20:298-306.
13. Layla S Abdullah; *Hysterectomy: A Clinicopathological Correlation*; *Bahrain Medical Bulletin*, Vol. 28, No. 2, June 2006.
14. Shakira Perveen, Subhana Tayyab; *A Clinicopathological review of elective abdominal hysterectomy*; *Journal of Surgery Pakistan (International)* 13 (1) January - March 2008.
15. Archana Bhosle, Michelle Fonseca; *Evaluation and Histopathological Correlation of Abnormal Uterine Bleeding in Perimenopausal Women*; *Bombay Hospital Journal*, Vol. 52, No. 1, 2010.
16. Mahmoud Khaniki, Mahsa Shojaie, Azam M Tarafdari; *Histopathological Study of Hysterectomy Operations in A University Clinic in Tehran From 2005 to 2009*; *Journal of Family and Reproductive Health* Vol. 5, No 2, 2011.

# ORIGINAL ARTICLE

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17. Anne Lethaby and Beverley Vollenhoven; Fibroids (uterine myomatosis, leiomyomas); BMJ Publishing Group Ltd 2011; Clinical Evidence2011;01:814.

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