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Research Article

### A CROSS-SECTIONAL RESEARCH ON ASSOCIATION OF MEDICAL SYMPTOMS AND SIGNS WITH HISTOPATHOLOGICAL DIAGNOSIS AND HYSTERECTOMY SAMPLES

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**Abstract:**

**Objective:** The study was conducted to find out the medical symptoms and association between hysterectomy sample and its histopathological diagnosis.

**Methods:** The design of the study was cross-sectional and it was carried out at Obstetrics department of Services Hospital, Lahore (March, 2016 to April, 2017). The sample was composed of the gynecology cases who were undertaking hysterectomy. Rest of the hysterectomy cases were excluded from the study. A pre-set form containing the patients' clinical results and socioeconomic factors was filled for each case. Biopsy samples were sent for evaluation at histopathology laboratory and the results were analyzed with the surgery symptoms.

**Results:** The sample was comprised of 313 female patients who underwent major operations. Most of the hysterectomies were abdominal (53.9%) and the mean value for the age of the sample under discussion was calculated to be  $44.3 \pm 5.3$  years. The subjects were multipara women with no case below para 5. Most of the patients reported with the symptoms of uterus bleeding (59.8%) followed by abdominal pain (21.9%) and mass build up in lower part of the stomach (8.3%). The most prevalent symptoms for hysterectomy procedure included abnormal bleeding (339.6%), fibroids (29.6%) and adenomyosis (breaking up of uterus inner wall) in 8.9% patients. The final diagnosis by the histopathologic unit confirmed the presence of the abnormalities which require hysterectomy. Histopathology findings were endometrial hyperplasia, adnexal masses, endometriosis and associated infectious diseases in pelvic region. After the histopathology evaluation, the results were found a little different from what was concluded during medical evaluation before histopathology. The values for fibroid, uterine bleeding and adenomyosis before and after histopathology were (29.6% & 32.6%), (39.6% & 16.6%) and (8.9% & 23.7%) respectively.

**Conclusion:** It was observed that the histopathology findings are well connected with the initial clinical investigations. The hysterectomy procedure was necessary after the laboratory evaluation by histopathology unit due to uterus tumors (fibroids), abnormalities, endometriosis, endometrial hyperplasia and associated pelvic disease.

**Keywords:** Hysterectomy, Endometriosis, Adenomyosis, Histopathology, Adnexal Masses, Multipara.

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**INTRODUCTION:**

Partial or complete uterus removal (Hysterectomy) is a renowned surgical procedure all over the world [1]. Almost, seventy thousand per annum cases of hysterectomy are recorded in England [2]. No such data is available for Pakistan [3]. A good number of females undergo hysterectomy (40%) when they reach in 60+ years of their life [4]. The post-operative evaluation revealed that the hysterectomy is a reliable procedure and provides satisfaction to the patients. Many associated diseases such as DUB, uterus tumors, adenomyosis and other pelvic diseases are successfully treated with the help of hysterectomy procedure [5]. The type of hysterectomy adopted for a particular patient depends upon the patient condition. The doctor may advice 1 of the types suited for the patients from abdominal, laparoscopic or vaginal hysterectomy. The complete removal of uterus is preferably carried out by following the abdominal route. Hysterectomy procedure is divided into various types including total abdominal hysterectomy, subtotal, radical, interfacial and extra facial hysterectomy [6]. Till now the agreed route for hysterectomy is not defined, however, vaginal procedure is considered more sustainable and less risky as compared to all other procedures. In some cases, it becomes inevitable to perform abdominal hysterectomy but efforts should be made to use vaginal hysterectomy procedure where possible [7]. Many researchers supported the vaginal procedure for hysterectomy in a Cochrane review [8]. Many studies conducted under different variables for hysterectomy showed that laparoscopic procedure is another substitute method for mild complications as well as endometrial cancer [9, 10]. Hysterectomy is associated with a lower death rate 2 patients / 1000 hysterectomies [2]. Adenomyosis is identified only after histopathology evaluation, however, Dysfunctional Uterine Bleeding can be diagnosed without histopathology. Still, the histopathology findings are ultimate means of diagnosis in deciding about the hysterectomy procedure. This research was focused on the comparison of clinical and histopathological results for hysterectomy cases and to find out any association between them.

**PATIENTS AND METHODS:**

The design of the study was cross-sectional and it was carried out at Obstetrics department of Services Hospital, Lahore (March, 2016 to April, 2017). The vaginal procedures were dropped from the study

according to exclusion criteria. During this time 313 major gynecology procedure were performed. The sample was refined to 168 patients by considering the WHO sample calculator [11]. The error margin and abdominal hysterectomy proportion (58.8%) [6] was kept in mind during the resizing of the sample. During the process, 169 abdominal hysterectomies were conducted in the Out Patient Department of the hospital. The patients' clinical exam was completed prior to the start of procedure with the help of para medical staff. The surgeries were conducted and the required data was recorded on a form containing the information about the clinical and demographic features. Hysterectomy samples were processed with 10% formalin and sent to Pathology Laboratory. The patients were able to be discharged during 4 – 6 weeks after the procedure. Follow up was scheduled after 2 weeks for each patient.

Data was analyzed by using SPSS. Statistical procedure was adopted for qualitative and quantitative variables in form of means, SD and percentages. Kappa test was applied to compare the findings before and after the procedure. A value of  $> 0.7$  was referred as good agreement.

**RESULTS:**

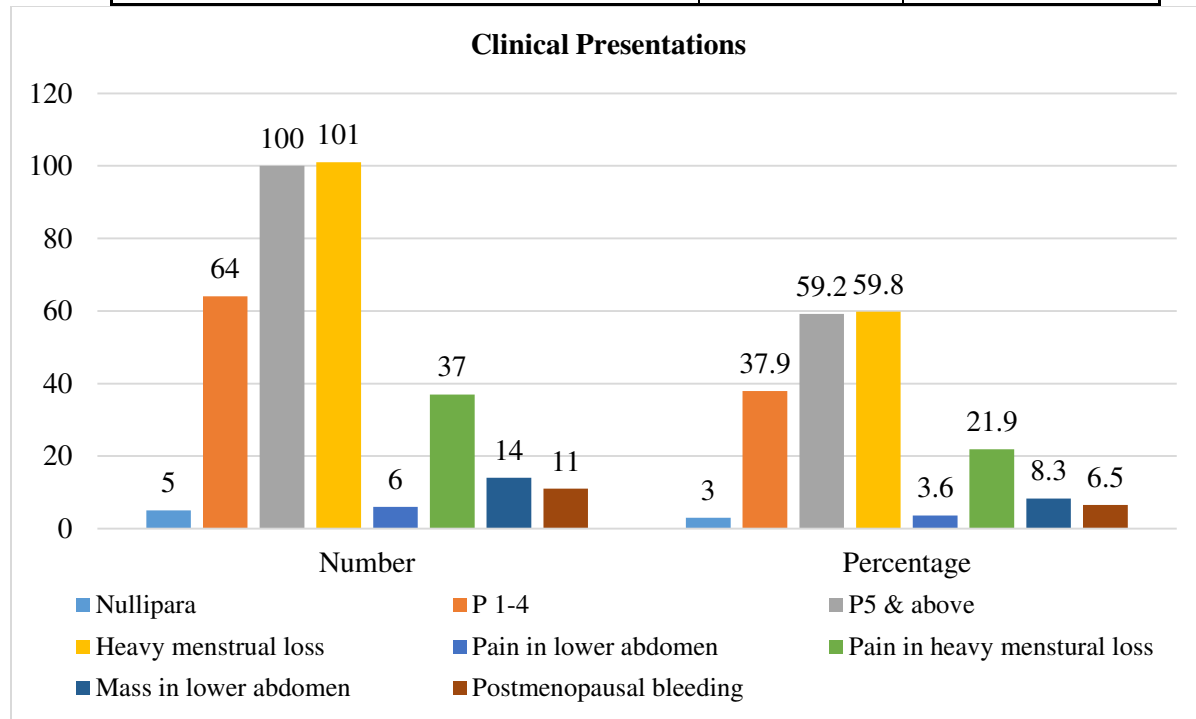
A total of 313 gynecological procedures were performed during the time span of the research. Among these, 169 patients underwent abdominal hysterectomies (53.9%). Clinical findings are represented in Table 1. The patients mean age was measured to be  $44.3 \pm 5.3$  years. Most of the female patients (59.2%) were admitted for 5<sup>th</sup> or higher delivery (multipara). Some common presenting symptoms were Menorrhagia (59.8%), Menorrhagia with pain (21.9%), lower abdomen abnormalities (8.3%) and some patients with pain in pelvic region (6.5%).

Table-II represents different attributes associated with hysterectomy. Most common causes for the procedure included DUB (39.6%), Tumors (29.6%), adenomyosis (8.9%), adnexal build up (4.1 %), polyp (6.5%) and other complications (3%).

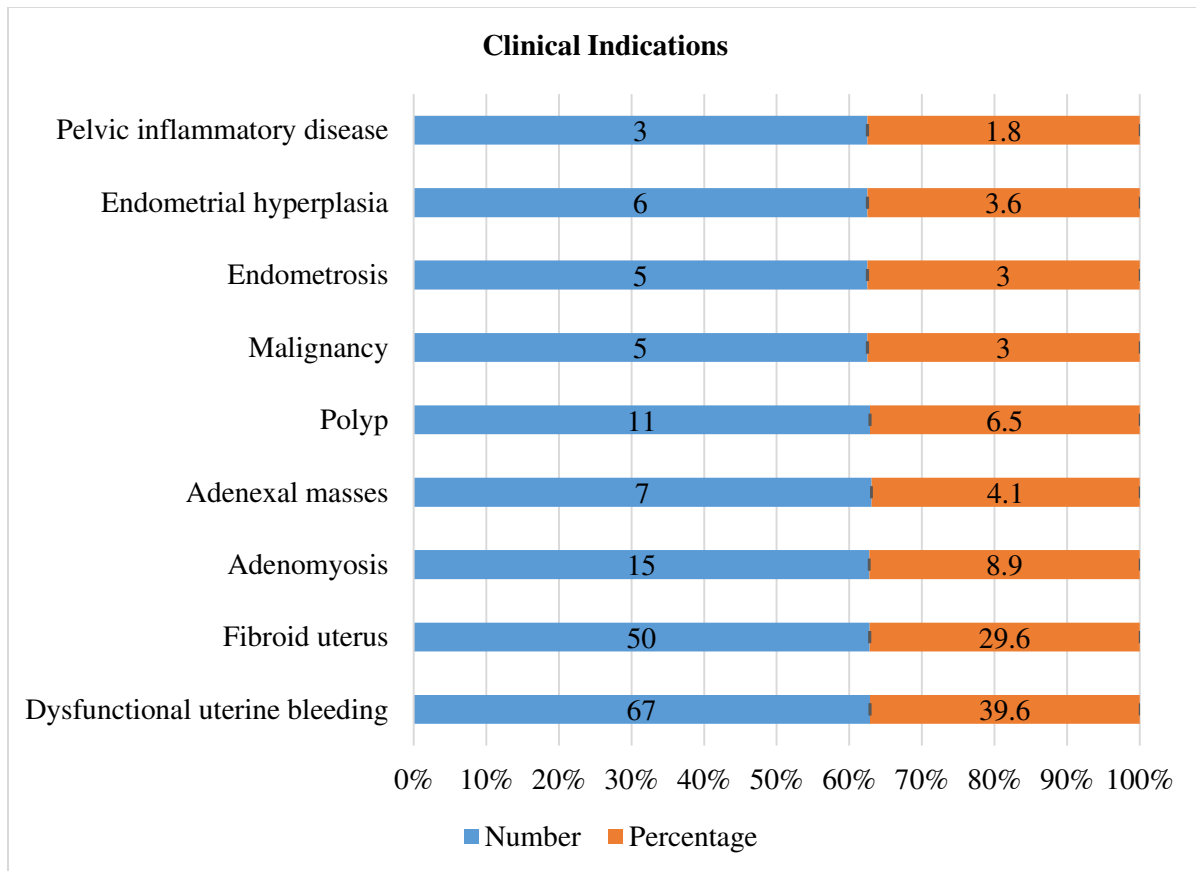
The comparison between clinical and histopathology outcome is shown in Table 3. The results for leiomyoma, adenomyosis, dysfunctional uterine bleeding, malignancy and endometrial cancer were compared and disparity among clinical and histopathology findings was noted.

**Table – I:** Clinical presentation in abdominal hysterectomy cases

Clinical Presentation	Number	Percentage
Nulli-para	5	3
P 1-4	64	37.9
P5 & above	100	59.2
Heavy menstrual loss	101	59.8
Pain in lower abdomen	6	3.6
Pain in heavy menstrual loss	37	21.9
Mass in lower abdomen	14	8.3
Postmenopausal bleeding	11	6.5

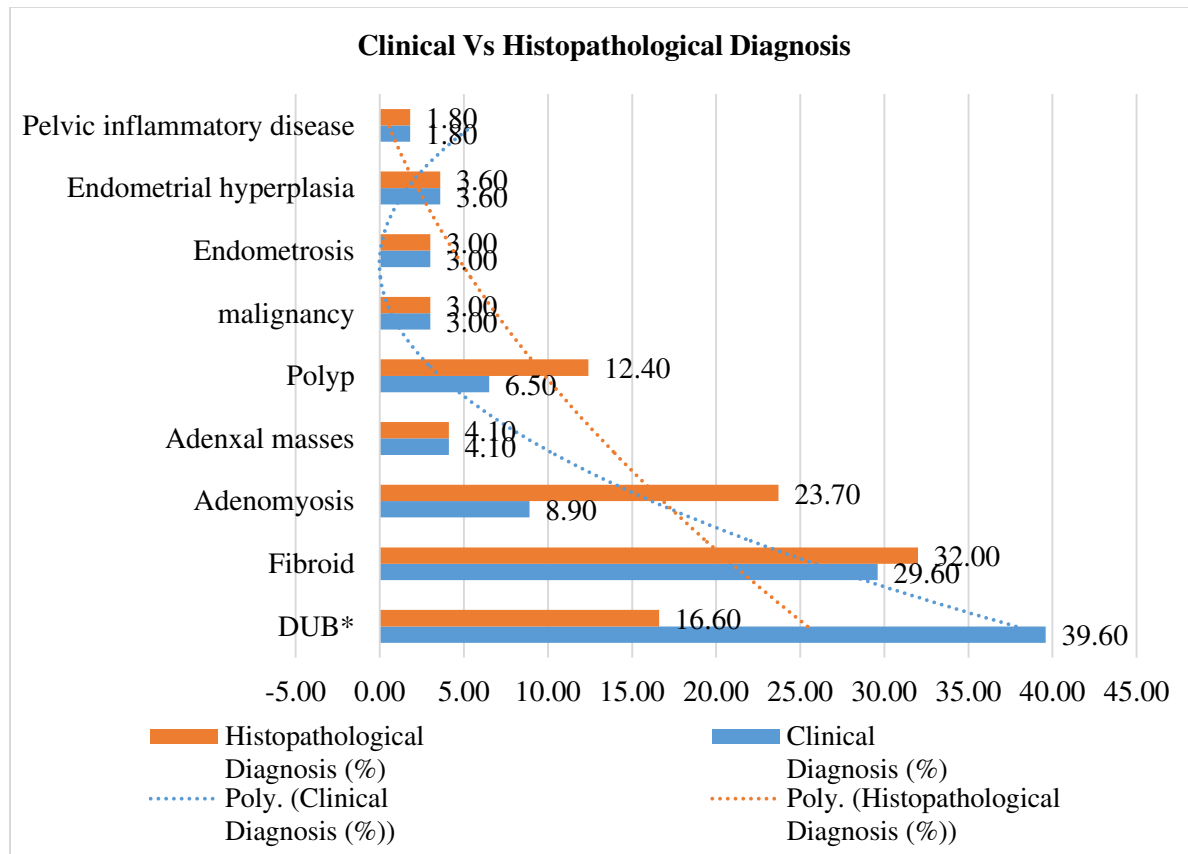
**Table – II:** Clinical indication for abdominal Hysterectomy

Clinical Indications	Number	Percentage
Dysfunctional uterine bleeding	67	39.6
Fibroid uterus	50	29.6
Adenomyosis	15	8.9
Adnexal masses	7	4.1
Polyp	11	6.5
Malignancy	5	3
Endometriosis	5	3
Endometrial hyperplasia	6	3.6
Pelvic inflammatory disease	3	1.8



**Table – III:** Histopathological versus clinical diagnosis in 169 cases of abdominal hysterectomy

Indication	Clinical Diagnosis (%)	Histopathological Diagnosis (%)
DUB*	39.60	16.60
Fibroid	29.60	32.00
Adenomyosis	8.90	23.70
Adnexal masses	4.10	4.10
Polyp	6.50	12.40
malignancy	3.00	3.00
Endometriosis	3.00	3.00
Endometrial hyperplasia	3.60	3.60
Pelvic inflammatory disease	1.80	1.80



### DISCUSSION:

Hysterectomy is an operation for partial and complete removal of uterus and is considered safe and healthy in patients suffering from uterus problems. The current research comprised of a sample of 313 multipara women (para 5 or above) with a mean age of 44.3 years. Out of this sample, 69 females underwent abdominal hysterectomy (53.9%).

Most of the multipara reported Menorrhagia and associated pain. It might be due to perimenopausal age group and high parity. This observation was also made by some other authors namely Bashir et.al [3], Shergill [12] and Shakira [13] with Menorrhagia prevalence of (38%), (66%) and (42.5%) respectively. Clinical findings (which were overestimated for DUB) revealed that the DUB is the leading cause for the patients to perform hysterectomy (39.6%) but histopathology results verified that the prevalence of DUB was detected only in 16.6% patients. Several studies have reported the DUB as a major cause in favor of hysterectomy [3, 14]. The next most common cause for hysterectomy was diagnosed to be uterus tumors called fibroids (29.6%) which is supported by the findings of different studies [2, 4, 5]. The benign muscle tumor leiomyoma fibroid was seen in maximum patients (32%) which was slightly higher

than the results of clinical pathology. The prevalence of leiomyoma in Abbah (Saudi Arabia), USA, Nigeria and Sweden is 25.8% [6], 78% [15], 48% [16] and 8% [17] respectively.

Third leading cause was adenomyosis with clinical under estimation of 14.9%. The prevalence of adenomyosis as described by studies from different geographical locations is 27.2% at Lahore [5], 26% in India [12], 24% at Karachi [13], 24.9% in Italy [18] and 6% in West Indies [19].

Abnormal growth of tissues was observed in our research which was also reported by other studies from Saudi Arabia and Pakistan [20, 21]. The histopathology findings were almost similar with clinical results in cases of malignancy and adnexal build ups. Malignancy was found to be 3% in both findings. Biopsy and CT scan can be used for better diagnosis of the disease.

### CONCLUSION:

The disparity between clinical and histopathology results for different aspects of the hysterectomy is significant. In many cases, clinical under estimation may lead to poor diagnosis and treatment. In some cases, over estimation can also ruin the treatment

process. The study concluded that histopathology should be considered as a compulsory pre-operative diagnosis tool in cases of hysterectomies and the type of hysterectomy can be better selected if one exactly knows the root cause of the disease.

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