ORIGINAL RESEARCH ARTICLE

STUDY ON CLINICAL PROFILE OF PATIENTS UNDERGOING ABDOMINAL HYSTERECTOMY AND THEIR CLINICO-PATHOLOGICAL CORRELATION

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ABSTRACT

Background: Hysterectomy is an effective treatment for a wide range of gynaecological diseases, both benign and malignant. There must be a periodic audit for the appropriate indication of the surgery and its complication rate. Histopathological analysis is mandatory for definitive diagnosis and further management. This study aims to review the clinical profile, indications of hysterectomy and to assess the correlation between the clinical diagnosis and histopathological report.

Methods: A retrospective study of all the patients undergoing abdominal hysterectomy was conducted in the Department of Obstetrics and Gynecology, Chitwan Medical College Teaching Hospital, Nepal from January to December 2018. Demographic and clinical informations were retrieved from the medical record section. Datas were entered in the pre-designed proforma. Statistical analysis was done in terms of percentages, standard deviation, correlation and mean.

Results: During the study period, 111 patients underwent abdominal hysterectomy. The mean age of the patients was 46 years. The mean duration of hospital stay was 8.7 days. Abnormal menstrual flow and pain abdomen were the commonest presenting symptoms. The most common preoperative diagnosis was fibroid followed by ovarian tumor. Leiomyoma was the commonest lesion on histopathological examination. The correlation between clinical diagnosis and histopathology was 96.07% for fibroid, 80.95% for ovarian tumor, 66.67% for adenomyosis and 38.46% for DUB.

Conclusions: Fibroid uterus and ovarian mass are the common indications for abdominal hysterectomy. Histopathology is mandatory for confirming the diagnosis, proper counseling and holistic management of the patient.

INTRODUCTION

Hysterectomy is a major gynecological procedure for the removal of the uterus with or without adnexal structure. In most of the cases, a total hysterectomy with removal of uterine corpus and cervix is done. It is the second most common major surgical procedure performed by the gynecologists all over the world next to Caesarean Section.[1] About 70-80% of hysterectomies are performed by the abdominal approach. Nowadays, clinical practice recommendations minimize the rate of open hysterectomy. The rate of open hysterectomy is decreasing in trend worldwide because of increased use of laparoscopic techniques.[2, 3]

Though Hysterectomy provides a definitive cure to various benign and malignant gynecological diseases, other minimal invasive techniques and medical treatments are evolving.[4] Hysterectomy rates varies with geographical area, patient expectations, training and practice pattern of local gynecological surgeons. In United states, approximately 600,000 hysterectomies are performed each year.[5] It is es-

timated that by the age of 65, 1/3rd of women will have their uterus removed surgically.[1] In developed countries like United Kingdom, USA and Germany the estimated hysterectomy rate is 42/1,00,000, 143/1,00,000, and 236/1,00,000 respectively.[6] However, hysterectomy is not free from risk as it is associated with different surgical and anesthetic complications. Rates of complications with hysterectomy ranges from 0.5% to 43 %.[7] Hence the advantage of hysterectomy must always be weighed with the possible risks and alternative treatment if available.

Histopathological examination (HPE) of specimens is necessary for both diagnostic and therapeutic purposes, mainly in patients with genital cancer where adjuvant therapy depends on the grade of the lesion and extent of invasion. Conversely, in any patients with suspicion of malignancy, HPE helps in ruling it out. However, for the disease such as Adenomyosis the definitive diagnosis is only established by HPE.

The aim of the study was to evaluate the clinical profile, indications and to compare the clinical diagnosis with histopathological report of patients undergoing abdominal hysterectomy.

METHODS

A retrospective study of patients undergoing abdominal hysterectomy for gynecological lesions was carried out in the Department of Obstetrics and Gynecology, Chitwan Medical College Teaching Hospital, Bharatpur over a period of one year from 1st January 2018 to 31st December 2018 after approval from institutional ethical board of CMC.

All cases of abdominal hysterectomies were included. Abdominal hysterectomy includes total abdominal hysterectomy, total abdominal hysterectomy with unilateral or bilateral salpingoophorectomy and hysterectomy done as a part of staging laparotomy. Vaginal and Cesarean hysterectomy were excluded from the study. Patients identification was done from the operation theatre register book. Case records were retrieved from the medical record department and data entry was done on a predesigned proforma. Various demographic and relevant clinical informations like age, parity, presenting symptoms, preoperative clinical diagnosis, duration of hospital stay, intraoperative complications and post-oper-

ative complications were noted. Histopathological reports were retrieved from the Department of Pathology, CMC by matching the IP of the patients. Histopathological reports were compared with preoperative clinical diagnosis. Statistical analysis was done by SPSS program for windows version 16. Pearson's correlation coefficients method was applied to correlate between histopathology and its clinical diagnosis.

RESULTS

A total of 111 total abdominal hysterectomies were done between January 2018 and December 2018. The mean age of patients undergoing hysterectomy was 46.34 years with minimum age of 25 and maximum age of 76 years.

Table 1: Age distribution of cases

Age group	Number (%)
≤30	3(2.7%)
31-40	21(18.9%)
41-50	61(55%)
51-60	22(19.8%)
>60	4(3.6%)
Total	111(100%)

Table 1 shows the age wise distribution of the patients. Out of 111 cases, 61(55%) were in the age group 41-50 years. 19.8% were in the age group 51-60 years and 18.9%in 31-40 years. Majority (90%) of patients who underwent abdominal hysterectomy were multiparous. There were three (2.7%) nulliparous women who had hysterectomy during the study period. The average duration of hospital stay was 8.7 days.

Table 2: Distribution according to presenting symptoms:

Symptom	No. of cases (%)
Abnormal menstrual flow	52(46.8%)
Pain abdomen	45(40.5%)
Dysmenorrhoea	12(10.8%)
Discharge per vaginum	7(6.3%)
Mass abdomen	5(4.5%)
Postmenopausal bleeding	5(4.5%)
Urinary symptoms	4(3.6%)

Above table shows the distribution of patients on the basis of presenting symptoms. The most common presenting symptom of patients undergoing abdominal hysterectomy was abnormal menstrual flow i.e. 46.5% which was followed by pain abdomen (40.5%).
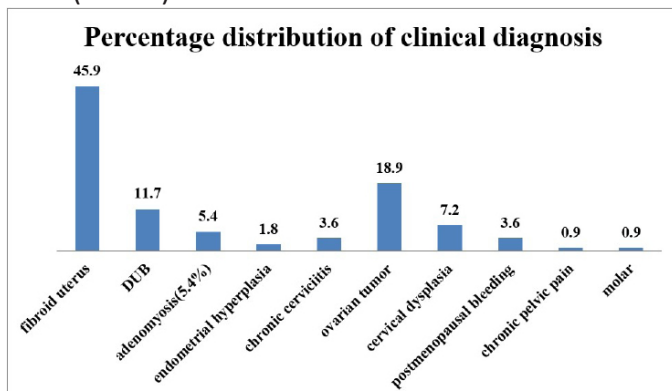
Figure 1: Frequency Distribution of Common Clinical Diagnosis:

Abdominal hysterectomies were done for a wide range of clinical indications as shown by Figure 1.The most common preoperative clinical diagnosis was fibroid uterus. Out of the 111 cases, 51 patients (45.9%) were diagnosed clinically as fibroid. This was followed by ovarian tumor (benign and malignant) and DUB which accounted about 18.9% and 11.7% respectively. Other less common clinical indications were chronic cervicitis, adenomyosis, endometrial hyperplasia, cervical dysplasia, postmenopausal bleeding, chronic pelvic pain and molar pregnancy.
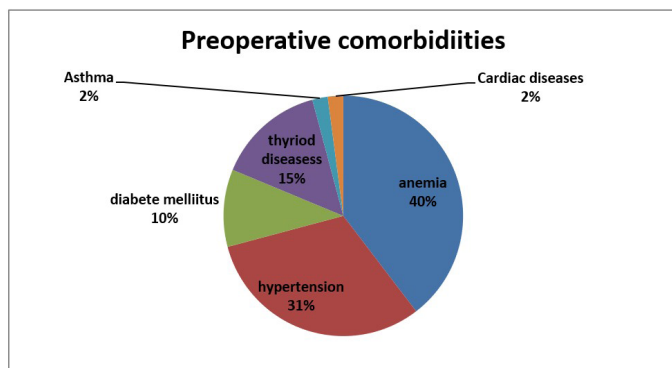
Figure 2: Frequency Distribution of Preoperative comorbidiities

Fourty out of 111 patients had one or more co-morbid conditions, the most common being anemia. 19 patients (17.11%) had varying degrees of anemia. Hypertension was present in 15 patients. Similarly, 5 cases had diabetes and 7 had thyroid disorder.

Table 3: Complications in abdominal hysterectomy

Complication	Number (%)
Haemorrhage	5 (4.5%)
Ureteric injury	4 (3.6%)
Bladder injury	1 (0.9%)
Bowel injury	0 (0%)
Fever	10 (9.0%)
Wound infection	12 (10.81%)
Lung infection	2 (1.8%)
Rectus sheath hematoma	1(0.9%)
Burst abdomen	1(0.9%)
Mortality	0 (0%)

Table 3 shows the intraoperative and postoperative complications seen in total abdominal hysterectomy. The commonest complication associated with abdominal hysterectomy was wound infection seen in 12 patients. Ten patients developed fever postoperatively. The incidence of ureteric injury and bladder injury was 3.6% and 0.9% respectively.

Table 4: Histopathological diagnosis:

Histopathology	No. of cases (%)
Leiomyoma	47 (42.3%)
Adenomyosis	6 (5.4%)
Leiomyoma +adenomyosis	14 (12.6%)
Benign ovarian cyst	15 (13.5%)
Ovarian malignancy	2 (1.8%)
Chronic cervicitis	6 (5.4%)
CIN	5 (4.5%)
Carcinoma cervix	2 (1.8%)
Endometrial hyperplasia	3 (2.7%)
Endometrial adenocarcinoma	1 (0.9%)
Others	4 (3.6%)
Normal	6 (5.4%)

On histopathological examination, the commonest lesion was found to be leiomyoma (42.3%). The other pathologies were benign ovarian cyst (13.5%), adenomyosis (5.4%), chronic cervicitis (5.4%), endometrial hyperplasia (2.7%) and endometrial polyp (0.9%). 5 cases were reported to be of malignant pathology which included 2 cases of ovarian cancer, 2 cases of cervical cancer and 1 case of endometrial cancer. Coexistence of leiomyoma and adenomyosis was seen in 14 specimens (12.6%). Other infrequent pathologies were molar, paratubal cyst and hydrosalpinx. Six cases had normal histological finding.

Table 5: Clinical diagnosis and histopathology report cross tabulation

Diagnosis	Histopathology Examination (HPE) report															Total
	Leiomyoma (L)	Adenomyosis (A)	Leiomyoma & adenomyosis	Endometrial polyp	Endometrial hyperplasia	Endometrial Carcinoma	CIN	Carcinoma Cervix	Benign Ovarian cyst	Carcinoma ovary	Molar	Chronic cervicitis	Paratubal cyst	Hydrosalpinx	none	
Fibroid	40	2	9	0	0	0	0	0	0	0	0	0	0	0	0	51
DUB	4	2	2	0	0	0	0	0	0	0	0	5	0	0	0	13
Adenomyosis	1	2	2	0	1	0	0	0	0	0	0	0	0	0	0	6
Endometrial hyperplasia	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	2
Chronic cervicitis	0	0	0	0	0	1	0	0	0	0	3	0	0	0	0	4
Ovarian tumor	1	0	1	0	0	0	0	0	15	2	0	0	1	1	0	21
Cervical dysplasia	0	0	0	0	0	0	3	2	0	0	0	2	0	0	1	8
Postmenopausal bleeding	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	4
Others	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Total	47	6	14	1	3	1	5	2	15	2	1	11	1	1	1	111

There was significant correlation at 0.01 level observed between clinical diagnosis and histopathological report. There was positive correlation between fibroid and leiomyoma. About 96.07% of the fibroids diagnosed clinically were confirmed on histopathology as Leiomyoma. However coexisting pathology of adenomyosis was reported in 9 cases and 2 cases were found to have only adenomyosis. Out of 13 cases with DUB, 4 cases were diagnosed as Leiomyoma, 2 Adenomyosis, 2 leiomyoma and adenomyosis, and 5 cases of normal histology. Similarly the ovarian pathology diagnosed clinically had positive histopathology correlation of 80.95% with 15 cases of benign ovarian cyst and 2 cases of ovarian malignancy. The clinicopathological cross-tab correlation of the diagnosis is depicted in Table 5.

DISCUSSION

Hysterectomy is the commonest gynecological surgery performed worldwide. The surgery is done most frequently through abdominal route.[7-9]

In our study the commonest age group undergoing abdominal hysterectomy was between 41-50. This result is comparable with the study done by Prusty RK, Choithani C et al.[10] The mean age of patients was 46.34±7.82, similar to research conducted in other regions of Nepal by Jha R et al and Acharya S et al.[11,12] More than 90% of cases were parity two and above and only 3 cases(2.7%) were nulliparous which was also reported in the study done by Acharya S et al.[12]

Abnormal menstrual flow and pain abdomen were the two main complaints seen in our study each presenting 46.8% and 40.5% respectively. Abnormal menstrual flow, as the single most common symptom, in patients undergoing abdominal hysterectomy is stated in various studies. Saleh SS et al found around 40% of patients having heavy menstrual flow.[13] Similar results were shown by Saldanah CL et al.[14] The reason behind may be due to noncompliance with the medical therapy. The next common symptom was pain abdomen which was also observed in other studies done in Nepal.[11,12] Some studies found per vaginal discharge as the second most common presenting symptom. In our study per vaginal discharge was present in only 6.3% of the cases. This may be due to patients' unawareness, social stigma and less priority given to vaginal discharge as compared to other major symptoms hampering their daily activities. Twelve cases (10.8%) had dysmenorrhoea and five cases (4.5%) had postmenopausal bleeding in our study .

Most common preoperative clinical diagnosis or indication for abdominal hysterectomy in our study was fibroid uterus constituting 45.9% of total cases. Pandey D quoted 39.8% and Acharya S found 40.3% fibroid as indication for hysterectomy similar to our observation.[7,12] In a population based study done by Lui F et al, 70% of patients had hysterectomy for fibroid.[15] In contrast to our result, DUB was the most common clinical diagnosis in some of the studies done by Gupta K et al and Bhatti K et al.[16,17] The other clinical diagnosis were ovarian mass (18.9%), DUB (11.7%) and cervical dysplasia (7.2 %). Jha R et al showed ovarian mass in 14.9% and DUB in 7.7% of cases.[11]

Anemia and hypertension were the two most common comorbidities seen in patients undergoing abdominal hysterectomy. Similar findings were reported by Choi EJ et al.[18] The presence of anemia may be due to heavy menstrual flow and poor nutritional supplements in our setup. As the common age group undergoing abdominal hysterectomy is above 40 years which is also the common age group for Essential Hypertension.

As in any other surgeries, hysterectomy is also associated with different complications. Twenty-eight (25.22%) out of 111 patients had one or more complications. A large prospective cohort study in Finland reported complication rate of 19.2% in abdominal hysterectomy.[19] Wound infection (10.81%) and fever (9%) were the most commonly recorded complications postoperatively. Similar finding was reported by Yusuf M et al.[6] In a study carried out by Saha R, the incidence of febrile morbidity and wound complication in abdominal hysterectomy was 2% and 6% respectively.[20] Wound infection was seen specially in obese patients, prolonged duration of surgery and in vertical incision. In our study, there were four cases of ureteric injury, three were diagnosed intraoperatively and repaired immediately and one case was diagnosed after 3 weeks. Very large fibroid was associated with risk of ureter injury during hysterectomy. One case of bladder injury was reported which was repaired intraoperatively. In a study conducted by Pandey D et al, one case of ureteric injury and 4

cases of bladder injuries were reported out of 394 abdominal hysterectomies.[7] The urinary tract injury was noted slightly high in our study compared to others.

Mean duration of hospital stay following abdominal hysterectomy was 8.7±4.8 days in our study with minimum of 4 and maximum of 26 days which is comparable with the study conducted in India by Pandey D et al.[7] Another study in Hong Kong showed mean hospital stay of 6.7±2.5 days.[21] Patients with uneventful intraoperative and postoperative period were discharged on the third and fifth postoperative day while those who had complication like wound infection stayed for more than a week.

On histopathological examination, the most common lesion was leiomyoma (42.3%). Histopathological analysis correlated well with the preoperative clinical diagnosis in majority of cases. 96.07% of fibroid cases were confirmed on histology with 9 cases having coexistent adenomyosis. The clinicopathological correlation for ovarian pathology was found to be 80.95%. There were 15 cases of benign ovarian cyst and 2 cases of ovarian malignancy. Those patients diagnosed as malignant histopathologically were counselled about the disease and then referred to the nearest Oncology centre for further management. These results are compatible with the results obtained by Lee NC et al.[22] Acharya S et al and Tiwana KK et al also found a significant correlation between clinical diagnosis and histopathology.[12,23] In patients preoperatively diagnosed as DUB, more than 60% had some pathology. This result emphasizes on the fact that preoperative diagnosis of DUB should be made only after all the necessary investigations are done.

CONCLUSION

Uterine fibroids and ovarian tumors are the common conditions which require hysterectomy in our hospital based clinical practice. The risk of complications can be minimized with careful evaluation of a patient before surgery. The most common preoperative clinical diagnosis and histopathological finding is still dominated by fibroid uterus (leiomyoma) followed by ovarian mass and adenomyosis having significant positive correlation on histopathology. However, there was negative clinicopathological cor-

relation for Dysfunctional Uterine Bleeding which on histology showed leiomyomas and/or adenomyosis.

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