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Clinical profile of patients undergoing abdominal hysterectomy at a medical college in Nepal

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ABSTRACT

Background: Hysterectomy, removal of the uterus, is one of the most frequently performed gynecological surgeries, with approximately six hundred thousand women undergoing this procedure annually in the United States. Indications of hysterectomy vary from benign conditions to malignancies of the genital tract. Hysterectomy is also associated with intraoperative and postoperative complications. **Aims and Objectives:** The aim of the current study was to analyze indications, complications, duration of hospital stay, blood loss during surgery and correlation of preoperative diagnosis with final histopathology report of all abdominal hysterectomies performed at a teaching hospital. **Materials and Methods:** This study involved all patients who underwent abdominal hysterectomy at Manipal Teaching Hospital, Pokhara, Nepal over a span of 18 months (from 1st January, 2018 to 31st June, 2019). It was a retrospective study. All the patients undergoing abdominal hysterectomy during the study period were taken without any exclusion criteria. **Results:** There were 101 cases of abdominal hysterectomies performed during the study period. Majority of the patients were from urban areas than rural areas (67.3% vs 32.7%). Mean age of patients undergoing abdominal hysterectomy was 45.48 years with 2 standard deviation (SD) of 8.75. The youngest patient aged 26 years and the eldest aged 67 years. Mean parity was 2.50 with 2 SD of 1.197. Majority of the patients presented with pain abdomen (49.5%) and menstrual disorders (38.6%). The most common indication for hysterectomy was uterine fibroids (51.5%) followed by ovarian pathology (16.8%). The histopathology report of the patients showed that majority of the patients had fibroid uterus (51.4%) and ovarian pathology (16.8%). Mean intraoperative blood loss was 239.60 ml with 2 SD of 197.144. Mean hospital stay was: 7.29 days with 2SD of 3.144. The maximum hospital stay was 18 days in two patients and most patients had hospital stay between 5 to 8 days. The commonest complication was surgical site infection (9.9%) needing resuturing followed by urinary tract infection (7.9%).**Conclusion:** Wide spectrums of lesions were encountered during the surgery. The preoperative diagnosis, duration of hospital stay, average blood loss, surgical complications and histopathological reports correlated with various others studies.

Key words: Abdominal hysterectomy; Fibroid; parity; pain abdomen; menstrual symptoms; blood loss

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INTRODUCTION

Hysterectomy, removal of the uterus, is one of the most frequently performed gynecological surgeries, with approximately six hundred thousand women undergoing this procedure annually in the United States.[1] In Nepal, no national statistics for hysterectomy is available. Hysterectomy can be performed abdominally, vaginally or

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through abdominal ports with the help of a laparoscope. The route of surgery depends on surgeon's preference, indications for surgery, nature of disease, and patient characteristics. Indications of hysterectomy vary from benign conditions to malignancies of the genital tract. Hysterectomy is also associated with intraoperative and postoperative complications. Rates of various complications with hysterectomy have been reported in the range from 0.5% to 43%.[2] Some of the studies have shown that following hysterectomy women suffer with various psychosexual dysfunctions as well as bothersome postmenopausal symptoms even in non-oophorectomized patients.[3,4] Mean age of onset of menopause in those who underwent hysterectomy is 3.7 years earlier than average, even when the ovaries are preserved.[4] The aim of this study was to analyze indications, complications, duration of hospital stay, blood loss during surgery and correlation of preoperative diagnosis with final histopathology report of all hysterectomies performed at a teaching hospital.

MATERIAL AND METHODS

This study involved all patients who underwent abdominal hysterectomy at Manipal Teaching Hospital, Pokhara, Nepal in a span of 18 months (from 1 January, 2018, to 31 June, 2019). It was a retrospective study. The study was approved by institutional ethical review committee. There were no exclusion criteria. All the patients undergoing abdominal hysterectomy during this period were studied. Case records were obtained from medical records department and reviewed to collect patient characteristics, indication for surgery, complications, and length of hospital stay. Intensive care admissions and repeat laparotomies were also assessed. All elective as well as emergency hysterectomies (including obstetric hysterectomies) were analyzed. Abdominal hysterectomies included supracervical hysterectomy, total hysterectomy (TAH), and hysterectomy with unilateral (TAH with USO) or bilateral salpingo-ovariotomy/oophorectomy (TAH with BSO). It also included hysterectomy done as a part of staging laparotomy for ovarian tumor. At the end main postoperative histopathology diagnosis was recorded. Preoperative indication was compared with pathologist's report after surgery. The data was entered in the excel sheet and was analyzed using SPSS 25 program and results were expressed as frequencies, percentages, standard deviation, and mean.

RESULTS

There were 101 cases of abdominal hysterectomies performed during the study period. Majority of the patients were from urban areas than rural areas (67.3% vs 32.7%). The youngest patient undergoing surgery was aged 26 years which was done for ruptured uterus and the maximum age was 67 years. The maximum number of patients undergoing surgery were aged 40 years (N=11).

Majority of the patients who underwent hysterectomy were between 41-55 years age group(55.44%) (Table 1).

Majority of the patients who underwent hysterectomy were para 2(34.7%%) followed by para 3(32.7%) (Table 2).

Majority of the patients presented with pain abdomen and menstrual disorders (Table 3).

The most common indication for hysterectomy was uterine fibroids followed by ovarian pathology (Table 4).

The histopathology report of the patients showed that majority of the patients had fibroid uterus and ovarian pathology (Table 5).

The maximum intraoperative blood loss was 1500ml in one patient who had undergone caesarean hysterectomy

Table 1: Age distribution of patients

Age group (years)	Frequency	Percentage (%)
25-40	33	32.67
41-55	56	55.44
56-70	12	11.88
Total	101	100%

Mean age: 45.48 years with 2 standard deviation (SD) of 8.75

Table 2: Parity distribution of patients

Parity	Frequency	Percentage (%)
0	5	5
1	12	11.9
2	35	34.7
3	33	32.7
4	11	10.9
5	3	3
6	2	2
Total	101	100%

Mean parity was 2.50 with 2 SD of 1.197

Table 3: Distribution of patients according to symptoms

Symptoms	Frequency	Percentage (%)
Pain abdomen	50	49.5
Menstrual symptoms	39	38.6
Mass abdomen	6	5.9
Pelvic pressure symptoms	4	4
Others (Rupture uterus, septic abortion)	2	2
Total	101	100%

Table 4: Various indications of abdominal hysterectomies

Pre-operative diagnosis	Frequency	Percentage (%)
Uterine fibroids	52	51.5
Ovarian tumors	17	16.8
Dysfunctional uterine bleeding (DUB)	14	13.9
Cervical neoplasia	9	8.9
Endometriosis	4	4
Cervical fibroids	3	3
Others(PPH, abortion)	2	2
Total	101	100%

Table 5: Distribution of patients according to the histopathology report

Histopathology report	Frequency	Percentage (%)
Fibroids (intramural/subserosal/ submucosal)	52	51.4
Serous ovarian tumors	9	8.9
Dermoid cyst of ovary	6	5.9
Mucinous ovarian tumors	1	1
Ovarian fibroma	1	1
Ovarian endometriosis	4	4
Low grade squamous intraepithelial lesion	6	5.9
High grade squamous intraepithelial lesion	3	3
Adenomyosis	12	11.8
Endometrial lesions (endometritis/polyp/sarcoma)	3	3
Cervical fibroids	3	3
Ruptured uterus	1	1
Total	101	100%

Table 6: The average intra-operative blood loss during surgery

Average blood loss (ml)	Frequency	Percentage (%)
<250	72	71.2
251-500	27	26.7
501-750	0	0
751-1000	0	0
>1000	2	2
Total	101	100%

Mean blood loss was 239.6oml with 2SD of 197.144

and majority of the patients had blood loss less than 250ml (Table 6).

Majority of the patients(62.3%) had hospital stay between 5 to 8 days (Table 7).

The most common complication encountered in the patients was surgical site infection(9.9%) (Table 8).

The minimum hospital stay was 3 days for two patients and two patients had hospital stay of 18 days. Maximum patients had hospital stay between 5-8 days.

Table 7: Duration of hospital stay of patients

Hospital stay (days)	Frequency	Percentage (%)
0-4	13	12.8
5-8	63	62.3
9-12	16	15.8
13-16	7	6.9
>16	2	2
Total	101	100%

Mean hospital stay was: 7.29 days with 2SD of 3.144

Table 8: Complications encountered in the patients

Complications	Frequency	Percentage (%)
None	74	73.3
Surgical site infection	10	9.9
Urinary tract infection	8	7.9
Lower respiratory tract infection	7	6.9
Gastroenteritis	2	2
Total	101	100%

Majority of the patients had no complications. The commonest complication was surgical site infection needing resuturing followed by urinary tract infection.

One patient each of septic abortion and ruptured uterus were admitted in the intensive care unit for one week for close monitoring and supportive care. Each of these patients needed four units of blood transfusion intra and post-operatively.

DISCUSSION

Hysterectomy is the second most common major surgery performed in females after caesarean section. The minimum age of the patient undergoing hysterectomy in our study was 26 years and the mean age was 45.48 with 2SD of 8.75 years. The youngest patient undergoing hysterectomy was aged 26 years which was done for ruptured uterus and the maximum age was 67 years. Most of the hysterectomies were performed in the age group of 41-55 years (55.44%). Similar observations were made by studies conducted by Pradhanang et al,[5] Rather et al[6] (47.27%), and Ogunlaja OA et al.[7] Similar age incidence was reported in other studies.[8,9] Around 90% of the patients were between 1 to 4 para and 5% were nulliparous. This result is comparable to a study conducted by Acharya S in Nepal.[10] Majority of the patients presented with pain abdomen (49.5%) and menstrual symptoms (38.6%). These were the main complaints noticed in patients in a study done by Acharya S.[10] Similar findings were also noted in a study done by Shrestha S et al.[11]

The number of hysterectomies performed for fibroid uterus varied between studies done in Nepal and abroad. The most common indication for abdominal hysterectomy in our series was fibroid uterus and it accounted for

51.5% followed by for ovarian tumours (16.8%) and DUB (13.9%). Somewhat similar result was reported by a study done by Dicker et al.[9] According to Amirikia et al 76% of hysterectomies were performed for fibroid uterus but Pandey D and Acharya S reported between 39 to 40%.[8,10,12] This wide variation could be due to the racial and geographic factors responsible for the etiology of fibroid. Jha R et al reported ovarian tumors in 14.9% and DUB in 7.7% of cases.[13]

Histopathology report showed 51.4% had fibroid uterus as histopathological report which was comparable to a study done by Vaidya et al (46.91%).[14] Ovarian tumor was diagnosed in 17% of hysterectomy specimens. This data was similar to the observation made by Vaidya et al (17.82%), Ranabhat et al(17.26%), and Jha et al (18.55%).[13-15] Out of 14 patients presenting with DUB, 85% had adenomyosis as histopathological report and the rest had endometrial polyp, endometritis and endometrial sarcoma.

Mean duration of hospital stay was 7.29 days with 2 SD of 3.144 with minimum stay of 3 days and maximum stay of 18 days in two patients. It is comparable to the study conducted by Pandey D et al [12] and Leung PL et al.[16] Majority (62.3%) of the patients had hospital stay between 5-8 days. Patients with smooth intraoperative and postoperative period were discharged on the fourth and fifth postoperative day.

Histopathological diagnosis matched well with the preoperative clinical diagnosis in fibroids, ovarian lesions, premalignant lesions of the cervix and in cervical fibroids. There were nine cases of serous ovarian tumours and one case of mucinous ovarian tumor. All the patients were referred to the oncology department for further treatment. These results were comparable with the results obtained by Shrestha S et al.[11] Significant correlation was between clinical diagnosis and histopathology was also shown in the study done by Acharya S et al and Tiwana KK et al.[10,17]

Twenty seven patients (26.7%) had various complications following hysterectomy in our series. Almost comparable complications were found in the study done by Shrestha et al.[11] Surgical site infection needing resuturing was seen in 10% patients followed by urinary tract infection and chest infection. Wound infection was noted in obese patients and in patients who were diabetic and had anaemia before surgery. Similar complications were found in a study done by S Akhter et al.[18]

Clinically estimated mean blood loss was 239.60 ml with 2 SD of 197.144. Majority of the patients (71.2%) during hysterectomy had blood loss less than 250 ml. The estimated blood loss during surgery in our series was almost similar to the one conducted by Ajjammanavar V et al.[19] Though clinical estimation of blood loss is an inaccurate method of assessing blood loss in abdominal hysterectomy.

Limitations of the study

The study was done with certain limitations such as small sample size, and cases from a single center were studied.

CONCLUSION

Wide spectrums of lesions were encountered during the surgery. Abdominal hysterectomy is a commonly performed gynecological surgery at our center. Uterine fibroids followed by ovarian pathology were the most common conditions requiring abdominal hysterectomy. The preoperative diagnosis, duration of hospital stay, average blood loss, surgical complications and histopathological reports correlated with various others studies from abroad and in Nepal.

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Author's contribution:
MRP- Concept and design of the study, prepared first draft of manuscript, interpreted the results and reviewed the literature; **AG**- Helped with collection and co-relation of histopathological report of patients; **PC**- Data collection and statistical analysis; **KK**- Data collection and statistical analysis

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