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## A clinicopathological patterns in hysterectomies in a medical college in eastern Nepal

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### ABSTRACT

**Aims:** Hysterectomy are being performed in regular basis and its aetiology and histopathological findings are watched and co-related in this study.

**Methods:** This is an observational descriptive study carried out in the Department of Obstetrics and Gynaecology at Nobel Medical College Teaching Hospital Biratnagar for one year from 15 May 2021 to 15 May 2022. All the patients undergoing hysterectomies were analyzed for indication, type of procedure, complications and histopathological diagnosis.

**Results:** A total of 456 hysterectomies were performed in a year. Preoperative diagnosis in most of the cases was fibroid uterus. The common surgical procedure was total abdominal hysterectomy. The most common histopathological diagnosis was fibroid uterus followed by uterine prolapse, ovarian mass, endometrial disease and adenomyosis.

**Conclusions:** Fibroid uterus is the leading cause of hysterectomy as well as the commonest pathologic diagnosis followed by prolapsed uterus and ovarian tumor.

**Key words:** Adenomyosis, AUB, histopathology, hysterectomy, fibroid, uterus

### INTRODUCTION

Abdominal and vaginal hysterectomy are the most frequently performed gynaecological surgeries for both benign and malignant conditions. Surgeries are performed by either laparotomy or laparoscopy for abdominal route; and descent and non-descent vaginal hysterectomy. It is the second most common major surgical procedure performed in Gynaecological department in the world next to Caesarean section.<sup>1</sup>

According to literature about 60,000 hysterectomies in USA<sup>2</sup> and 100,000 in UK<sup>3</sup> are performed each year. No national statistics is available for Nepal. Though many treatment options are available including both medical and surgical procedures, most of the time

hysterectomy remains the only treatment option for various indications and context. Hysterectomy removes the child bearing capacity of the patient and also have surgical risks and long-term effects. So, it should be done only when other conservative or medical treatment is not possible. Hysterectomy is often done to get rid of non-response and non-compliance to medical treatment and to improve the quality of life.<sup>4</sup>

Histopathologic study is done routinely which has diagnostic as well as therapeutic significance. An attempt was made to study the clinical indications, histopathological patterns in the hysterectomy specimens, types of surgery performed for various indications for different age group.

**METHODS**

This is a descriptive cross-sectional study done in the Department of Obstetrics and Gynaecology, Nobel Medical college Teaching Hospital Biratnagar for the period of one year from 15 May 2021 to 15 may 2022 with ethical approval.

All the cases of hysterectomies were included in this study. Caesarean hysterectomy, hysterectomies done for obstetrical cause and post-hysterectomy referred-in cases were excluded. Patient details including age, parity, presenting symptoms, pre operative clinical diagnosis, operative findings, intraoperative and post operative complications were noted. Their histopathological reports were retrieved from the Department of Pathology and compared with pre-operative clinical diagnosis. All the data were entered in MS Excel sheet initially and exported to SPSS 16 for analysis. Descriptive analysis was performed.

**RESULTS**

A total of 455 hysterectomies were performed for various indications in the

study period of this one year. The mean age of the patients was 49.83±10.7 (Range:22–80) years. Almost half of them were in 41-50 years age group The lowest age of 22 years was of ovarian malignancy and underwent staging surgery with hysterectomy; .and 18.2% had it after 60 years mostly due to pelvic organ prolapse. [Figure-1]

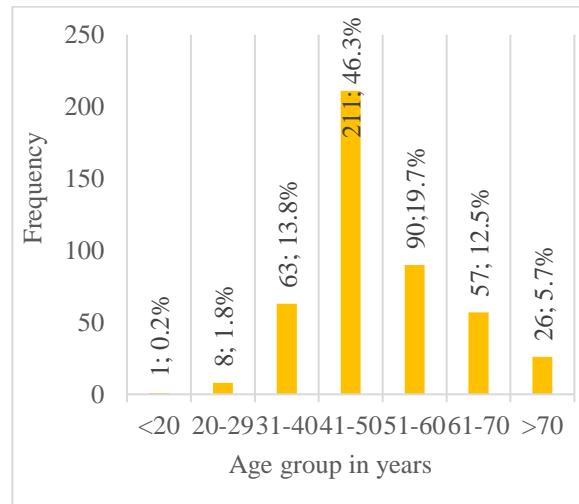


Figure-1: Age distribution of the hysterectomy cases (N=456)

Seven nullipara had hysterectomy due to ovarian malignancy; one was at 26 years of age and six in between 43 and 53 years with benign conditions; and more than 90% were multipara. [Table-1]

Table-1: Parity distribution of the hysterectomized cases (N=456)

Parity	Frequency (%)
0	7 (1.5)
1	28 (6.2)
2	133 (29.2)
3	146 (32.2)
≥4	141 (40.0)

Clinical presentation of the cases was menstrual disorder in majority followed by prolapse and abdominal mass with one or more symptoms. [Table-2]

Most common indication of the hysterectomy was symptomatic fibroid uterus followed by uterine prolapse, ovarian mass and endometrial disease. [Figure-2]

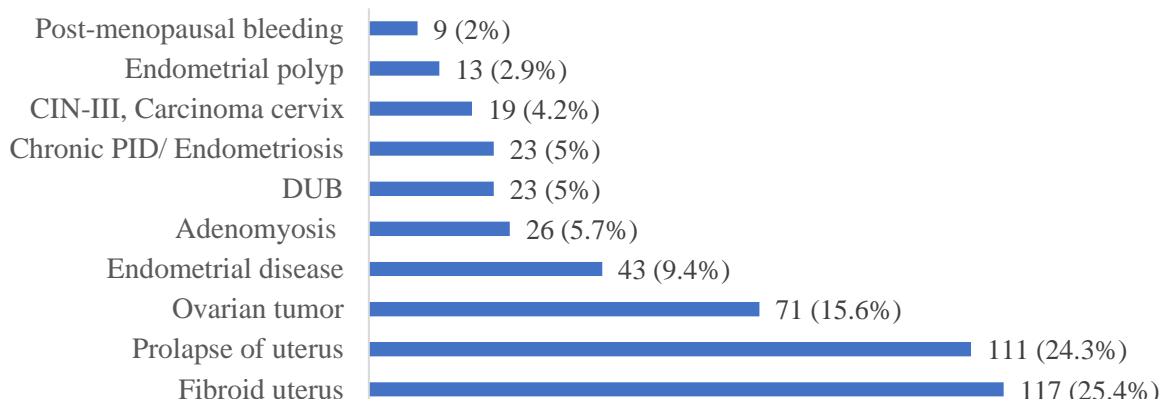


Figure-2: Frequency distribution of indications of hysterectomy (N=456)

Table-2: Distribution by symptoms (N=456)

Chief complaints	Frequency (%)
Menstrual disorder	204 (44.8%)
Feeling of prolapse	100 (21.9)
Abdominal mass	51(11.2)
Vaginal discharge	42 (9.2)
Pelvic pain	35 (7.7)
Post-menopausal bleeding	16 (3.5)
Other/ Mixed/Asymptomatic	14 (3.1)

Among the different types of hysterectomies, three-fourth were abdominal hysterectomies including 8.4% of non-conservative cancer surgeries. [Table-3]

Table-3: Types of hysterectomy performed (N=456)

Types of surgery	Frequency (%)
Abdominal hysterectomy	346 (76)
Open	297 (85.8)
Laparoscopic	20 (5.8)
Vaginal	18 (5.2)
Others	11 (3.2)
Vaginal hysterectomy	109 (24)

**Histopathological diagnosis of hysterectomy specimen**

Histopathologic (HP) study revealed fibroid uterus (105, 23%) as a most common finding followed by adenomyosis, ovarian tumour, chronic cervicitis, endometrial hyperplasia,

atrophic endometrium and cervical cancer. Histopathology analysis of the specimen also revealed benign lesion in 92.1% and malignant in 7.9%. [Table-4]

Table-4: Histopathological diagnosis (455)

Organ of origin	Histopathological diagnosis	Frequency (%)
Myometrium	Fibroid	86 (18.9)
	Adenomyosis	74 (16.3)
Ovarian	Benign	49 (10.8)
	Malignant	13 (2.9)
Cervix	Benign	49 (10.8)
	Malignant	18 (4)
Endometrium	Hyperplasia/Polyp	47 (10.3)
	Normal (proliferative/Secretive)	36 (7.9)
	Atrophic	27 (5.9)
	Cancer	3 (0.7)
Others	Missing HPE report	34 (7.5)
	Mixed	19 (4.2)

On correlating pre-operative diagnosis with histopathological report, only around half of the cases with benign clinical diagnosis of fibroid uterus and adenomyosis came to be true; and two-third of the diagnosis of Dysfunctional uterine bleeding (DUB) had either fibroid or adenomyosis. [Table-5]

**DISCUSSION**

Hysterectomy have been one of the commonest gynaecological surgeries being performed worldwide and it is the second most common surgical procedure in USA.<sup>5</sup> The surgery is done most frequently through abdominal route.<sup>6-9</sup>

Table-5: Clinicopathological co-relation (N=194)

Pre-operative indication	Histopathologic report	Frequency (%)
Fibroid	Fibroid	54 (46.6%)
	Adenomyosis	27 (23.3%)
	Secretive endometrium	15 (12.9%)
	Endometrial hyperplasia	6 (5.4%)
	Others	14 (12.1%)
Adenomyosis	Adenomyosis	14 (53.8%)
	Fibroid	4 (15.4%)
	Endometrial hyperplasia	3 (11.5%)
	Others	5 (19.23%)
DUB	Fibroid	8 (33.3%)
	Adenomyosis	7 (29.2%)
	Endometrial hyperplasia	3 (12%)
Abdominal pain	Fibroid	10 (37.0%)
	Adenomyosis	7 (25.9%)
	Endometrial hyperplasia	3 (11.1%)
	Chronic cervicitis	3 (11.1%)
Post-menopausal bleeding	Cervical carcinoma	3 (33.3%)
	Fibroid	2 (22.2%)
	Adenomyosis	2 (22.2%)

The mean age of the patients was  $49.83 \pm 10.7$  years and maximum number of them was in the age group of 41-50 years (46%) which was similar to the study in Nepal (46.45 $\pm$ 8.39),<sup>9,10</sup> India<sup>11</sup>, Bangladesh<sup>12</sup>, Dubai<sup>4</sup>, Pakistan.<sup>13</sup> Most of them was para 2 and 3. Most common indication of the hysterectomy was fibroid uterus followed by uterine prolapse, ovarian mass. Study done by Baral R et al,<sup>14</sup> Pradhan SB et al<sup>15</sup> in Kathmandu Nepal, Acharya S et al<sup>16</sup> in Chitwan, Gangadharan V et al<sup>11</sup> in India, Praveen S et al in Pakistan (59.2% cases)<sup>17</sup> have found similar results. A study done by Jaleel R et al<sup>18</sup> also revealed similar find with fibroid being the most common indication (40%) followed by DUB (29%), however study done by Perveen S et al,<sup>17</sup> DUB was found to be the commonest indication comprising 27.7% followed by fibroid only 22.2%. Pelvic organ prolapse was the second most common indication for hysterectomy in the developing countries and nowadays its incidence has been decreasing.<sup>19</sup> Prolapsed uterus was found to be commonest indication for hysterectomy in

a study done by Jha R et al.<sup>15,20,21</sup> different from this outcome.

Total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH-BSO) was the most common operation performed followed by vaginal hysterectomy, laparoscopic hysterectomy and radical surgeries which is quite similar to the study done by Pradhan SB et al,<sup>15</sup> Manandhar T et al.<sup>9</sup>

Histopathology is the gold standard for the diagnosis specimen. Preoperative diagnosis and histopathological findings were also different to much extent in many cases. Only 46.6% the patients who underwent hysterectomy for fibroid uterus had fibroid and rest had adenomyosis, secretive endometrium and endometrial hyperplasia etc. Similarly, only 53% of adenomyosis as pre-operative diagnosis had adenomyosis, and rest had fibroid, endometrial hyperplasia etc. Among the DUB cases 33% had fibroid and 33% had adenomyosis. Our histopathological correlation in fibroid is similar to the study done by Abdullah LS<sup>22</sup> and less accurate than the study done by Ram S et al<sup>23</sup> in Jodhpur, India.

## CONCLUSIONS

Fibroid uterus is the leading cause of hysterectomy as well as the commonest pathologic diagnosis followed by prolapsed uterus and ovarian tumour. Though, there was pathological finding in histopatology, the pre-operative benign diagnoses were matching in around half of the cases only.

## REFERENCES

1. Rock JA, Jones HW. TeLinde's Operative Gynaecology, 10th edition, Lippincott Williams and Wilkins, 2010; 727-41.
2. Wu JM, Wechter ME, Geller EJ, Nguyen TV, Visco AG. Hysterectomy rates in the United States, 2003. *Obstet Gynecol.* 2007;110(5):1091-5. doi:

- 10.1097/01.AOG.0000285997.38553.4b.  
PMID: 17978124. <http://dx.doi.org/10.21088/ijprp.2278.148X.9320.40>
3. Clarke-Pearson DL, Geller EJ. Complications of hysterectomy. *Obstet Gynecol.* 2013;121(3):654-73. doi: 10.1097/AOG.0b013e3182841594. PMID: 23635631.
  4. Sreedhar VV, Jyothi C, Sailaja V, Paul MC, Sireesha O, Vani T, Kumar KM. Histopathological spectrum of lesions of hysterectomy specimens-a study of 200 cases. *Saudi J Pathol Microbiol.* 2016;1(2):54-9. DOI:10.21276/sjpm.2016.1.2.5
  5. Graves EJ. National Centre for Health Statistics, National Hospital discharge survey, annual summary, 1990.
  6. Pandey D, Sehgal K, Saxena A, Hebbar S, Nambiar J, Bhat RG. An audit of indications, complications, and justification of hysterectomies at a teaching hospital in India. *Int J Reprod Med.* 2014;1-6. <http://dx.doi.org/10.1155/2014/279273>
  7. Turner LC, Shepherd JP, Wang L, Bunker CH, Lowder JL. Hysterectomy surgical trends: a more accurate depiction of the last decade? *Am J Obstet Gynecol.* 2013;208(4):277-e1. doi:10.1016/j.ajog.2013.01.022
  8. Jacoby VL, Autry A, Jacobson G, Domush R, Nakagawa S, Jacoby A. Nationwide use of laparoscopic hysterectomy compared with abdominal and vaginal approaches. *Obstet Gynecol.* 2009;114(5):1041-8. doi:10.1097/AOG.0b013e3181b9d222 PMID:20168105; PMCID: PMC4640820.
  9. Manadhar T, Sitaula S, Dixit BT, Agrawal A. Clinicopathological correlation of abdominal hysterectomy. *IJRCOG.* 2020;9(11) DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20204781>
  10. Hadwani RN, Khaparde SH, Khonde DD. Histopathological findings in hysterectomy specimens in a tertiary care hospital: a retrospective study. *Indian J Pathol Res Pract.* 2020;9(3):265–268. DOI:
  11. Gangadharan V, Prasanthi C. Hysterectomy-a clinico-pathological correlation in a rural setting. *Indian J Basic Appl Med Res.* 2016;5(2):8-15. PISSN: 2250-284X, E ISSN: 2250-2858
  12. Nahar L, Parvin Z, Khanam S, N Rosy. Clinico-Pathological Study of Abdominal Hysterectomies. *Faridpur Med Coll J.* 2018;13(1):28-30.
  13. Shams RO, Naz SH, Nadeem SA, Khan MH, Noreen S, Rasheed S. Histopathological Analysis of Hysterectomy Specimen. *PJMHS.* 2020;14(1):344-6.
  14. Baral R, Sherpa P, Gautam D. Histopathological analysis of hysterectomy specimens: one year study. *J Pathol Nep.* 2017;7:1084-6.
  15. Pradhan SB, Sedhain M, Acharya S, Maharjan S, Regmi S. Clinico-pathological study of hysterectomy specimens in Kathmandu Medical College Teaching Hospital. *Birat J Health Sci.* 2018;3(2):423-6. DOI: <https://doi.org/10.3126/bjhs.v3i2.20938>
  16. Acharya S, Shrestha S, Pal MN. A retrospective review of abdominal hysterectomy in a teaching hospital. *J Universal Col Med Sci.* 2015;3(2):16-9. DOI: <https://doi.org/10.3126/jucms.v3i2.14285>
  17. Perveen S, Tayyab S. A clinicopathological review of elective abdominal hysterectomy. *J Surg Pakistan (Int).* 2008;13(1):26-9.
  18. Jaleel R, Khan A, Soomro N. Clinicopathological study of abdominal hysterectomies. *Pak J Med Sci.* 2009;25 (4): 630-4. ISSN 1681-715X.
  19. Vaidya S, Vaidya SA. Patterns of Lesions in Hysterectomy Specimens in a Tertiary Care Hospital. *J Nepal Med Assoc.* 2015;53(197):18-23. PMID: 26983042.



20. Jha R, Pant AD, Jha A, Adhikari RC, Sayami G. Histopathological analysis of hysterectomy specimens. *J Nepal Med Assoc.* 2006;45(163):283-90. PMID: 17334416.
21. Mäkinen J, Brummer T, Jalkanen J, Heikkinen AM, Fraser J, Tomás E, et al. Ten years of progress-improved hysterectomy outcomes in Finland 1996-2006: a longitudinal observation study. *BMJ Open.* 2013;3(10):e003169. doi: 10.1136/bmjopen-2013-003169. PMID:24165027;PMCID:PMC3816230.
22. Abdullah LS. Hysterectomy: a clinicopathologic correlation. *Bahrain Med Bull.* 2006;28:2.
23. Ram S, Shaheen R, Parakh P. Clinicohistopathology Correlation in Women Who Underwent A Hysterectomy for A Benign Condition. *J Dent Med Sci.* 2019;18(2):1-3. DOI: 10.9790/0853-1802080103