A Clinico-histopathological Correlation of Elective Abdominal Hysterectomy in University Hospital

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ABSTRACT

Introduction: The objective of this study was to correlate preoperative indications of abdominal hysterectomy with histopathological findings.

Methods: This cross-sectional study was conducted in Patan Hospital from April 2016 to March 2018 in all the patients who underwent elective abdominal hysterectomy. Demographic characteristics, clinical symptoms, preoperative diagnosis and final histopathological diagnosis were studied. Preoperative indications were correlated with histopathological diagnosis.

Results: A total of 203 elective abdominal hysterectomies were performed. Menorrhagia was the leading symptom found in 67 (33.00%) patients followed by pain abdomen in 62 (30.54%) patients. Leiomyoma was the most common preoperative diagnosis seen in 105 (51.72%) patients followed by ovarian tumor in 34 (16.75%) patients. The most common histopathological diagnosis was leiomyoma observed in 87 (42.86%) patients followed by ovarian tumor in 35 (17.24%) patients. Clinical and histopathological correlation was 100% in cases of ovarian tumor, complex endometrial atypical hyperplasia, pelvic inflammatory disease (PID), fibroid polyp and chronic cervicitis. Only 40% of preoperatively diagnosed postmenopausal bleeding cases were correlated histopathologically while the rest were missed preoperatively which included endometrial polyp (40%) and adult granulosa cell tumor (20%).

Conclusions: Leiomyoma was the most common preoperative and histopathological diagnosis. Clinical and histopathological correlation was 100% in cases of ovarian tumor, complex endometrial atypical hyperplasia, PID, fibroid polyp and chronic cervicitis.

Keywords: *histopathological diagnosis; hysterectomy; preoperative indications.*

INTRODUCTION

Hysterectomy is one of the most common gynaecological procedures performed worldwide. It is considered as a definitive treatment for various benign pelvic pathologies like leiyomyoma, abnormal uterine bleeding (AUB), chronic pelvic pain, endometriosis, adenomyosis, uterovaginal prolapse and genital tract malignancies.[1] Histopathological examination (HPE) of hysterectomy specimens carries ethical, legal, diagnostic and therapeutic significance.[2]

The objective of this study was to correlate preoperative indications of abdominal hysterectomy with histopathological findings.

METHODS

This cross-sectional study was conducted in the Department of Obstetrics and Gynecology of Patan Hospital, Nepal. All the patients who underwent elective abdominal hysterectomy from April 2016 to March 2018 were included in the study. All the vaginal and obstetrics hysterectomies were excluded. The data were collected from the patient medical record files retrieved from the Medical Record Section and recorded on proformas, including demographic characteristics, clinical symptoms, preoperative diagnosis and the final histopathology results of the hysterectomy specimens. Preoperative indications were

correlated with the histopathological diagnosis. Microsoft Excel 2007 was used to analyze data. Ethical approval was taken from the Institutional Review Committee (IRC) of PAHS.

RESULTS

During the study period, 203 elective abdominal hysterectomies were performed. The age group of the patients ranged from 20-70 years. The maximum number of 112 (55.17%) patients was in the age group of 40-49 years and the peak parity of 110 (54.19%) patients was 2- 3 (Table 1).

Menorrhagia was the leading symptom found in 67 (33.00%) patients followed by pain abdomen in 62 (30.54%) patients (Table 2). Leiomyoma was the most common preoperative diagnosis seen in 105 (51.72%) patients followed by ovarian tumor in 34 (16.75%) patients (Table 3). The most common histopathological diagnosis was leiomyoma observed in 87 (42.86%) patients followed by ovarian tumor in 35 (17.24%) patients (Table 4). Clinical and histopathological correlation was 100% in cases of ovarian tumor, complex endometrial atypical hyperplasia, pelvic inflammatory disease, fibroid polyp and chronic cervicitis (Table 5).

Table 1. Demographic characteristics of Patients

Demographic characteristics		Number of cases	Percentage (%)
Age (years)	< 20	0	0.00
	20 - 29	2	0.99
	30 - 39	36	17.73
	40 - 49	112	55.17
	50 - 59	39	19.21
	60 - 69	12	5.91
	≥ 70	2	0.99
	Total	203	100.00
Parity	0	12	5.91
	1	29	14.29
	2 - 3	110	54.19
	> 3	52	25.61
	Total	203	100.00

Table 2. Distribution according to Clinical Symptoms

Clinical Symptoms	Number of cases	Percentage (%)
Menorrhagia	67	33.00
Pain Abdomen	62	30.54
Mass Abdomen	22	10.84
Metrorrhagia	13	6.40
Dysmenorrhoea	12	5.91
Menometrorrhagia	11	5.42
Per vaginal discharge	7	3.45
Postmenopausal bleeding	5	2.46
Urinary symptoms	2	0.99
Incidental findings of fibroid uterus in ultrasonography	2	0.99
Total	203	100.00

Table 3. Distribution according to Preoperative diagnosis

Preoperative diagnosis	Number of cases	Percentage (%)
Leiomyoma uterus	105	51.72
Ovarian tumor	34	16.75
Ovarian cyst	29	14.29
Abnormal Uterine Bleeding (AUB)	12	5.91
Adenomyosis	10	4.93
Postmenopausal bleeding	5	2.46
Cervical Intraepithelial Neoplasia (CIN)	3	1.48
Complex endometrial atypical hyperplasia	2	0.99
Pelvic Inflammatory Disease (PID)	1	0.49
Fibroid polyp	1	0.49
Chronic cervicitis	1	0.49
Total	203	100.00

Table 4. Distribution according to Histopathological diagnosis

Histopathological diagnosis	Number of cases	Percentage (%)
Leiomyoma	87	42.86
Ovarian tumor	35	17.24
Ovarian cyst	28	13.80
Adenomyosis	16	7.88
Leiomyoma + Adenomyosis	13	6.40
Chronic cervicitis	6	2.96
Endometrial Polyp	3	1.48
Complex endometrial atypical hyperplasia	2	0.99
Cervical Intraepithelial Neoplasia (CIN)	1	0.49
Acute endometritis	1	0.49
Fibroid polyp	1	0.49
Tubo-ovarian abscess	1	0.49
Unremarkable	9	4.43
Total	203	100.00

Table 5. Correlation between preoperative diagnosis and histopathological diagnosis (n = 203)

Preoperative diagnosis	Number of cases	Histopathological diagnosis		Percentage Correlated (%)
Leiomyoma uterus	105	Leiomyoma	87	82.86
		Leiomyoma + Adenomyosis	11	
		Adenomyosis	5	
		Acute endometritis	1	
		Unremarkable	1	
Ovarian tumor	34	Serous cystadenoma	13	100.00
		Mature cystic teratoma	12	
		Mucinous cystadenoma	4	
		Borderline mucinous tumor	3	
		Borderline brenner tumor	1	
		Fibroma	1	
Ovarian cyst	29	Endometriotic/ chocolate cyst	23	96.55
		Hemorrhagic cyst	3	
		Corpus luteal cyst	1	
		Simple cyst	1	
		Tubo-ovarian abscess	1	
Abnormal Uterine Bleeding (AUB)	12	Unremarkable	6	50.00
		Adenomyosis	4	
		Endometrial polyp	1	
		Chronic cervicitis	1	
Adenomyosis	10	Adenomyosis	7	70.00
		Leiomyoma + Adenomyosis	2	
		Chronic cervicitis	1	
Postmenopausal bleeding	5	Endometrial polyp	2	40.00
		Unremarkable	2	
		Adult granulosa cell tumor	1	
Cervical Intraepithelial Neoplasia (CIN)	3	CIN	1	33.33
		Chronic cervicitis	2	
Complex endometrial atypical hyperplasia	2	Complex endometrial atypical hyperplasia	2	100.00
Pelvic Inflammatory Disease (PID)	1	Chronic cervicitis	1	100.00
Fibroid polyp	1	Fibroid polyp	1	100.00
Chronic cervicitis	1	Chronic cervicitis	1	100.00

DISCUSSION

In our study, the most common age group was 40-49 years which constituted of 112 (55.17%) patients who underwent elective abdominal hysterectomy. This finding was similar to previous studies.[2-7]

In the present study, the maximum number of 110 (54.19%) patients was seen with parity 2-3 which was comparable to other studies.[3,8]

The most common clinical symptom in this study was menorrhagia found in 67 (33.00%) patients followed by pain abdomen in 62 (30.54%) patients which were similar to the studies done by Jaleel R, Perveen S and Naheed K.[2, 6, 9] It is well known that

hormonal disturbance in the perimenopausal age group, results in symptomatic menstrual changes.[6] In this study, the most common preoperative diagnosis for hysterectomy was leiomyoma uterus found in 105 (51.72%) patients followed by ovarian tumor in 34 (16.75%) patients which were similar to the results reported by Acharya S.[7] Jha R. found that leiomyoma was the indication in 24.9%, ovarian tumor in 14.9%, and DUB in 7.7% of the cases.[10] Similar results were observed in the studies done by Yadav DP, Jaleel R and Naheed K.[2, 3, 9]

In our study, the most common histopathological diagnosis was leiomyoma, found in 87 (42.86%) patients, as similar to other studies.[2,4] Ovarian tumor observed in 35 (17.24%) patients was the next common pathology found in this study whereas adenomyosis was also the next common pathology found in other studies.[2, 4,10,11]

In this study, the correlation between preoperative diagnosis and histopathological diagnosis was 100.00% in cases of ovarian tumor, complex endometrial atypical hyperplasia, PID, fibroid polyp and chronic cervicitis whereas it was 96.55% in ovarian cyst and 82.86% in leiomyoma, comparable to previous studies.[3,7,10,12] However, double pathologies of leiomyoma and adenomyosis coexisted in 11 patients (10.47%). Adenomyosis was found in 5 patients (4.77%) with preoperative diagnosis of leiomyoma while acute endometritis was found in 1 patient (0.95%) whereas no pathology was identified in 1 patient (0.95%) in histopathological diagnosis.

Adenomyosis is rarely diagnosed preoperatively and is still largely under diagnosed as it has non–specific physical findings.[9] In our study, the correlation between preoperative diagnosis and histopathological diagnosis of adenomyosis was 70%, similar to the study done by Jaleel R.[2] However, double pathologies of adenomyosis and leiomyoma coexisted in 2 patients (20%). Chronic cervicitis was found in 1 patient (10%) with preoperative diagnosis of adenomyosis in histopathological diagnosis.

Abnormal uterine bleeding (formerly, dysfunctional uterine bleeding [DUB]) is a diagnosis of exclusion.[2] In our study, preoperative diagnosis of AUB was made in 12 (5.91%) patients. However, 50% of preoperatively diagnosed AUB cases were correlated with histopathological diagnosis while the rest were missed preoperatively which included adenomyosis (33.33%), endometrial polyp (8.33%) and chronic cervicitis (8.33%). This result emphasized the fact that the preoperative diagnosis of AUB should be made only after the analysis of comprehensive and necessary investigations. This result also sufficiently highlights the importance of histopathological examination of all surgical specimens. In the study conducted by Yadav DP et al, AUB was found in 27 (25.71%) patients in which AUB was histopathologically correlated in 2 (7.40%) patients.[3]

In our study, the preoperative symptomatic diagnosis of postmenopausal bleeding was made in 5 (2.46%) patients. Only 40% of preoperatively diagnosed postmenopausal bleeding cases were correlated on histopathological diagnosis while the rest were missed preoperatively which included endometrial polyp (40%) and adult granulosa cell tumor (20%). Therefore, a thorough histopathological confirmation is necessary not only to substantiate the preoperative diagnosis but also to find out missed pathologies, especially malignancies.

In our study, the preoperative diagnosis of cervical intraepithelial neoplasia was found in 3 (1.48%) patients. However, 33.33% of preoperatively diagnosed cervical intraepithelial neoplasia were correlated on histopathological diagnosis whereas 2 cases (66.67%) had chronic cervicitis. These findings were consistent with previous studies.[5, 7]

Many times, histopathological examination of hysterectomy specimens does not reveal any pathology.[10] In our study, 9 (4.43%) patients had unremarkable pathology who were operated with preoperative diagnosis of AUB (6 cases), leiomyoma uterus (1 case) and postmenopausal bleeding (2 cases). These findings were consistent with the study done by Jha R.[10]

CONCLUSIONS

In this study, leiomyoma was the most common preoperative and histopathological diagnosis. Clinical and histopathological correlation was 100% in cases of ovarian tumor, complex endometrial atypical hyperplasia, PID, fibroid polyp and chronic cervicitis.

Conflict of Interest: None

REFERENCES

1. Nausheen F, Iqbal J, Bhatti FA, Khan AT, Sheikh S. Hysterectomy: the patient's perspective. Ann Gyne. 2004;10:339-41

2. Jaleel R, Khan A, Soomro N. Clinico-Pathological study of abdominal hysterectomies. Pak J Med Sci 2009;25(4):630-634

3. Yadav DP et al. Abdominal hysterectomy: analysis of clinico-histopathological correlation in Western Rajasthan, India. Int J Reprod Contracept Obstet Gynecol. 2017 Mar;6(3):1012-1015. DOI: http://dx.doi.org/10.18203/2320-1770.ijrcog20170575

4. Arulnathan Ebinesh, MS Sharada, MC Krishna. Clinicopathological correlation of abdominal hysterectomy specimens. International Journal of Science and Research (IJSR) 2013; 4:1084-89

5. Verma D et al. Analysis of histopathological examination of the hysterectomy specimens in a north Indian teaching institute. Int J Res Med Sci. 2016 Nov;4(11):4753-4758. DOI: http://dx.doi.org/10.18203/2320-6012.ijrms20163761

6. Perveen S, Tayyab S. A clinicopathological review of elective abdominal hysterectomy. Journal of Surgery Pakistan (International) 2008 Jan-Mar;13 (1);26-29

7. Acharya S, Shrestha S, Pal M. N. A retrospective review of abdominal hysterectomy in a teaching hospital. Journal of Universal College of Medical Sciences 2015; 3(10):16-19. DOI: http://dx.doi.org/10.3126/jucms.v3i2.14285

8. Ticku et al. Histopathological spectrum of hysterectomy specimens in tertiary care hospital: A prospective study. Ejbps 2017;4(8):858-866

9. Naheed K, Hussain A, Ali R. Clinico-pathological study of hysterectomy at Pak Red Crescent Medical and Dental College. JIIMC 2018;13(2): 62-65

10. Jha et al.Histopathological Analysis of Hysterectomy Specimens. J Nep Med Assoc 2006; 45:283-290

11. Gupta G, Kotasthane D, Kotasthane V.Hysterectomy: A Clinico-pathological correlation of 500 cases. The Internet J Gynaecol Obs. 2009:14:1

12. Gangadharan V, Prasanthi C. Hysterectomy – a clinico- pathological correlation in a rural setting. Indian Journal of Basic and Applied Medical Research. March 2016; 5(2):8-15