A Review of Clinical and Pathological Correlation for Elective Abdominal Hysterectomy

Rafia Ansari, Sareeka Rathore, Bilqees Mustafa

Abstract

Objective: To study the correlation between clinical indication and the final histopathological diagnosis of hysterectomy specimen.
Methods: Descriptive Cross sectional study was conducted in the Department of Obstetrics and Gynaecology of a tertiary care hospital, Karachi, from 1st January 2011 to 31st December 2012. All patients undergoing hysterectomy for gynaecological diseases were studied. All obstetric and vaginal hysterectomies were excluded. Demographic characteristics, clinical features and indications for hysterectomy were recorded on a pre-designed performa. Surgical specimens were sent for histopathology. Reports were analyzed and compared with the indications of surgery.
Results: A total of 313 major gynaecological operations were carried, out of which, (53.9%) were abdominal hysterectomies. Majority of the women were multiparous (Para 5 and above) and mean age was 44.3 ± 5.3 years. Frequent presenting symptom were abnormal uterine bleeding (59.8%), pain and abnormal uterine bleeding (21.9%), and mass in lower abdomen (8.3%). Most common indication for hysterectomy was dysfuntional uterine bleeding in 39.6%, followed by fibroid in 29.6% and adenomyosis in 8.9%. In the final histopathological reports of the hysterectomy specimens, pre-operative diagnosis was confirmed 100 % in cases of malignancy, endometrial hyperplasia, adnexal masses, endometriosis and pelvic inflammatory disease. Disparity was found between clinical and histopathological diagnosis in cases of fibroid (29.6 % clinical and 32.6% histopathological), dysfunctional uterine bleeding (39.6% clinical and 16.6 histopathological) and adenomyosis (8.9% clinical and 23.7% histopathological).
Conclusion: Histopathological analysis correlates well with the pre-operative diagnosis for hysterectomy in cases of fibroid, malignancy, endometriosis, endometrial hyperplasia and pelvic inflammatory disease. Histopathology must be mandatory for ensuring diagnosis and thus management, in particular of malignant disease.
Keywords: Abdominal hysterectomy, dysfunctional uterine bleeding, adenomyosis, histopathology.
(AASH & KMDC 18(2):75;2013).

Introduction

Hysterectomy is the most common gynaecological operation performed worldwide[1]. Prevalence of hysterectomy in the UK is 100,000/ year and greater than 70,000/ year in England[2]. In Pakistan hysterectomy prevalence studies are not available[3]. 40% of women all over the world will have a hysterectomy by the age of 64[4]. Hysterectomy is a successful operation in terms of symptoms relief and patient satisfaction. It provide definitive cure to many diseases involving, uterus as well as adenexa e.g. fibroids,dysfunctional uterine bleeding (DUB), adenomyosis, endometriosis, pelvic inflammatory disease (PID), pelvic organ prolapse and malignancy[5]. Hysterectomy may be performed by abdominal, laparoscopic or vaginal procedure. Abdominal hysterectomy involves complete removal of uterus and cervix through abdominal route. Various types of abdominal hysterectomy include total abdominal hysterectomy, subtotal hysterectomy, radical hysterectomy, interfacial and extra facial hysterectomy according to type of procedure

Department obstetrics and Gynecology,
Chiniot General Hospital, Karachi

Correspondence: Dr. Rafia Ansari
Department of Obstetrics and Gynecology
Chiniot General Hospital, Karachi
E-mail:rsansari@hotmail.com

adopted[6]. At present there is no consensus on the optimal route for surgery or the precise techniques, although laparotomy is still the most common route for hysterectomy[7]. In a Cochrane review about surgical approach to hysterectomy for benign gynaecological disease, the authors concluded that vaginal hysterectomy should be performed in preference to abdominal hysterectomy whenever possible because of equal or significantly better outcome on all parameter[8]. Several prospective controlled studies have shown that total laparoscopic hysterectomy is a safe alternative to open surgery not only for benign indicators but also for endometrial cancer[9,10]. Mortality rate from hysterectomy is 0.5-2/1000[2]. The diagnostic value of histopathological examination is well explained in patients with malignancy where adjuvant treatment is dependent upon grade and extent of invasion of disease. Diagnosis of adenomyosis is only established by histopathology, while DUB is a diagnosis of exclusion. Ultimate diagnosis is only on histology, so every hysterectomy specimen should be subjected to histopathological examination. Aim of this study was to correlate indications of abdominal hysterectomy as diagnosed clinically with those confirmed histopathologically and find existing disparity.

Patients and Methods

This descriptive cross sectional study was carried out at the Department of Gynaecology and Obstetrics, in a tertiary care hospital of Karachi. All vaginal and obstetric hysterectomies were excluded. A total of 313 major gynaecological surgeries were performed during 1st January 2011- 31st December 2012. By using WHO sample size calculator[11], considering the proportion 58.8%[6] patients of abdominal hysterectomies with margin of error 7.46% and 95% confidence level, an estimated sample size was168. Abdominal hysterectomies included in this study were 169. All the patients were admitted through the outpatient department (OPD). After correction of anaemia and other medical problems in collaboration with medical team, surgery was performed. Data was recorded on a pre-designed Performa, including demographic characteristics and clinical features. Only one dominant diagnosis was considered and documented as the indication for the procedure. Patients were discharged between 4th-6th post operative day and follow up was done fortnightly. Hysterectomy specimens were saved in 10% formalin and sent to Department of Pathology.

Data was entered into SPSS version 14. Mean Standard Deviation was calculated for age and parity, frequency and percentage was calculated for agreement between clinical indication and histopathological diagnosis, Kappa test was applied to see agreement between clinical and histopathological findings. Kappa value greater than 0.7 was considered as good agreement.

Results

During 24 months 313 major gynecological surgeries were done, of which 169 (53.9%) were abdominal hysterectomies. Table 1 shows the general clinical features of the subjects. Mean age was 44.3 ± 5.3 years. Majority of women (59.2%) were multiparous (Para 5 and above). The most common presenting complaints were heavy menstrual loss alone in 59.8% of patients, 21.9% presented with heavy menstrual loss and chronic pelvic pain, 8.3% with mass in lower abdomen, 6.5% presented with post-menopausal bleeding and 6% with chronic pelvic pain.

Various indications for hysterectomy are listed in Table 2. Majority of the hysterectomies were done for dysfunctional uterine bleeding (39.6%), fibroid (29.6%), adenomyosis (8.9%), adnexal masses (4.1%.), polyp (6.5%) and malignancy (3%).

Table 3 shows the difference between histological and clinical diagnosis. Histopathology confirmed leiomyoma in 32 % of cases versus clinical diagnosis of 29.6%, amounting to 2.4% clinical underestimation. Adenomyosis was clinically diagnosed in 8.9% but histopathology confirmed 23.7% cases thus there was a clinical under diagnosis of 14.8%. However, dysfunctional uterine bleeding was overes-

timated clinically (39.6%) and confirmed histologically only in 16.6%. Histopathology results of 5(3%) cases of suspected malignancy were endometrial cancer 3, serous carcinoma of ovary 1 and mucinous carcinoma of ovary 1 case.

Table 1. Clinical presentation in abdominal hysterectomy cases, n(%)

Mean age (years)	**44.3(SD±5.30)**
Parity	
Nullipara	5(3)
P1-4	64(37.9)
P5 & above	100(59.2)
Symptoms	
Heavy menstrual loss	101(59.8)
Pain in lower abdomen	6(3.6)
Pain in heavy menstural loss	37(21.9)
Mass in lower abdomen	14(8.3)
Postmenopausal bleeding	11(6.5)

Table 2. Clinical indication for abdominal hysterectomy, n(%)

Dysfunctional uterine bleeding	67(39.6)
Fibroid uterus	50(29.6)
Adenomyosis	15(8.9)
Adenexal masses	7(4.1)
Polyp	11(6.5)
Malignancy	5(3)
Endometrosis	5(3)
Endometrial hyperplasia	6(3.6)
Pelvic inflammatory disease	3(1.8)

Table 3. Histopathological versus clinical diagnosis in 169 cases of abdominal hysterectomy

Indication	Clinical Diagnosis	Histopathological Diagnosis
DUB*	39.60%	16.60%
Fibroid	29.60%	32%
Adenomyosis	8.90%	23.70%
Adenxal masses	4.10%	4.10%
Polyp	6.50%	12.40%
malignancy	3%	3%
Endometrosis	3%	3%
Endometrial hyperplasia	3.60%	3.60%
Pelvic inflammatory disease	1.80%	1.80%

**Dysfunctional uterine bleeding*

Discussion

Hysterectomy is a common surgical procedure performed on women in the peri and postmenopausal period. In this study over a period of 2 years 313 major gynaecological surgeries were performed of which 169 (53.9%) were abdominal hysterectomies. The mean age at hysterectomy in this study was 44.3 ± 5.3 years and majority of women (59.2%) were multiparous (para five and above).

The most common presenting symptom was heavy menstrual loss with or without pelvic pain. It is well known that perimenopausal age group and high parity are associated with these symptoms. This was also seen by Bashir et.al (38%)[3], Shergill SK et.al (66%)[12] and Shakira P et. al (42.5%)[13]. The most common indication for hysterectomy in this study was abnormal uterine bleeding in 39.6% cases but it was confirmed histologically in only 16.6% cases. This shows a clinical over-estimation of abnormal uterine bleeding. Many studies have shown abnormal uterine bleeding as the commonest indication for hysterectomy[3,14]. The second most common indication for hysterectomy in this study was fibroids (29.6%.). In many studies it is the leading indication for hysterectomy[2,4,5]. On histopathology, leiomyoma was commonest pathology (32%) indicating a slight clinical under estimation. It was reported as main pathology in many studies. Its incidence is 25.8% in Abbah city of Saudi Arabia[6], 78% in USA[15], 48% in Nigeria[16] and 8% in Sweden[17].

Geographical and racial influences are thus apparent on the prevalence of uterine leiomyoma. Next commonest cause for hysterectomy was adenomyosis. Clinical diagnosis was made in 8.9% cases but histological diagnosis of adenomyosis was made in 23.7% hysterectomies indicating substantial clinical underestimation. Its incidence was 27.2% in a study from Lahore[5], 26% in a study from India[12], 24% in a study from Karachi[13], 24.9% in Italy[18] and 6% in West Indies[19].

Polyp was confirmed in 12.4% histopathologically, which is similar to studies from Pakistan (10%)[20] and Saudi Arabia (13.4%)[21]. Disparity within clinical and histological diagnosis was found least in cases of malignancy and adenexal masses. Malignancy was diagnosed clinically in

3% of cases and confirmed in 3% histologically. CT scan and pre operative biopsy might have helped in the accurate diagnosis.

Conclusion

The clinical and the pathological correlation were very high when the clinical diagnosis was a fibroid, malignancy, endometrial hyperplasia, adenexal masses, endometriosis and pelvic inflammatory disease. However the co relation was poor, when dysfunctional uterine bleeding and adenomyosis was the pre-operative clinical diagnosis. Histopathology is mandatory for confirmation of diagnosis and thus ensuring optimal management, in particular for malignant disease.

References

1. 1. Lowenstein L, Yarnitsky D, Gruenwald I, Deutsch M, Sprecher E, Gedalia U, et al. Does hysterectomy affect genital sensation? Eur J Obstet Gynecol Reprod Biol 2005;119:242-5.
2. Gupta S, Manyonda I. Hysterectomy for benign gynaecological diseases. Current Obstet Gynaecol 2006;16:147-53.
3. Bashir R, Perveen Z, Sultana R, Khan B. A two year audit of complications of hysterectomy at Ayub Teaching hospital Abbottabad. J Ayub Med Coll Abbottabad 2005;17:47-9.
4. Bryan MM. Hysterectomy, social and psychosexual aspect. Baillieres Clin Obstet Gynecol 1997;11:23-6.
5. Jaleel R, Khan A, Soomro N. Clinicopathological study of abdominal hysterectomies. Pak J Med Sci 2009;25:630-4.
6. Bano KA, ZulfiqarS, Mansoor S, AkhtarS. An audit of clinicopathological indications of abdominal hysterectomy. JDUHS 2008;2:22-6.
7. Sobande AA, Eskander M, Archibong EI, Damole IO. Elective hysterectomy: a clinicopathological review from Abha catchment area of saudia Arabia. West Afr J Med 2005;24:31-5.
8. Nieboer TE, Johnson N, Lethaby A, Tavender E, Curr E, Garry R, et al. Surgical approach to hysterectomy for benign gynaecological disease. Cochrane Database Syst Rev 2009;3:CD003677.
9. Garry R, Fountain J, Mason S, Hawe J, Napp V, Abbott J, et al. The eVALuate study: two parallel randomized trials, one comparing laparoscopic with abdominal hysterectomy, the other comparing laparoscopic with vaginal hysterectomy. BMJ 2004;328:129.
10. Hauspy J, Jimenez W, Rosen B, Gotllieb WH, Fung-Kee-Fung M, Plante M. Laparoscopic surgery for endometrial cancer: a review. J Obstet Gynaecol Can 2010;32:570-9.
11. Dean AG, Sullivan KM, Soe MM. Open Epi: Open Source Epidemiologic Statistics for Public Health, Version 2.3.1 [Internet]. Available from: http://www.openepi.com/oe2.3/menu/openepimenu.htm. Accessed on March 5, 2014.
12. Sharqill SK, Sharqill HK, Gupta M, Kauser S. Clinicopathological study of hysterectomies. J Indian Med Assoc 2002;100:238-9,246.
13. Perveen S, Tayyab S. Clinicopathological review of elective abdominal hysterectomies. J Sur Pak 2008;13:26-9.
14. Saleh SS, Fram K. Histopathology diagnosis in women who underwent a hysterectomy for benign condition. Arch Gynecol Obstet 2012;285:1339-43.
15. Baird DD, Dunson DB, Hill MC, Cousins D, Schectman JM. High cumulative incidence of uterine leiomyoma in black and white women: ultrasound evidence. Am J Obstet Gynecol 2003;188:100-7.
16. Adelusola KA, Ogunniyi SO. Hysterectomies in Nigerians: Hiatopathological analysis of cases seen in Ile-Ife. Niger Postgrad Med J 2001;8:37-40.
17. Borgfeldt C, Andolf E, Transvaginal ultrasonographic findings in the uterus and endometrium : low prevalence of leiomyoma in a random sample of women age 25-40. Acta Obstet Gynecol Scand 2000;79:202-7.
18. Vercellini P, Parazzini F, Oldani S, Panazza S, Bramante T, Crosignani PG. Adenomyosis in hysterectomies: a study on frequency distribution and patient characteristics. Hum Reprod 1995;10:1160-2.
19. Raju GC, Naraynsingh V, Woo J, Jankey N. Adenomyosis uteri: A study of 416 cases. Aust N Z J Obstet Gynaecol 1998;28:72-3.
20. Sajjad M, Iltaf S, Qayyum S. Pathological findings in hysterectomy specimens of patients presenting with menorrhagia in different age groups. Ann Pak Inst Med Sci 2011;7:160-2.
21. Abdullah SL. Hysterectomy: A clinic pathologic correlation. Bahrain Med Bull 2006;28:1-6.