

Hysterectomy : A Clinicopathologic Correlation

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Objective : To study the most common pathologies identified in hysterectomy specimens and to correlate the findings with the clinical indications.

Setting: Department of Pathology, King A. Aziz Medical City, Jeddah.

Method: All hysterectomy specimens in the period between January 2000 and December 2003 were retrieved and studied for the following variables: the primary clinical indication, the pathological diagnosis, the mode of surgery (abdominal versus vaginal) and the patient age.

Result: The total number of hysterectomy specimens received was 179. The patient's age ranged between 23-90 years with an average age of 49 years old. The most common clinical indication for hysterectomy was present and previous malignancies 50 (27.9%) including cases of therapeutic and follow up hysterectomies for gynecologic malignancies followed by uterine leiomyoma 44 (24.5%). Other clinical indications included dysfunctional uterine bleeding 29 (16.2%), uterine prolapse 15 (8.3%), endometrial polyps 10 (5.5%), adenomyosis 5 (2.7%) and endometrial hyperplasia 6 (3.3%). Emergency hysterectomy for post partum hemorrhage and placenta accreta 15 (8.3%). Abdominal hysterectomy was the preferred approach (85.4%) for cases other than uterovaginal prolapse. The vaginal route was used in 13.4% of cases and two cases underwent laparoscopic hysterectomy.

The most common pathology identified was leiomyoma 62 (34%), followed by adenomyosis in 33 (18.4%) and endometrial polyp in 24 (13.4%). Changes consistent with uterovaginal prolapse accounted for 15 (8.3%). Other less frequent pathologies identified included disordered proliferative endometrium, endometritis and simple hyperplasia, which was present in 12 (6.75). The pathologic examination confirmed the clinical diagnosis in all cases of leiomyomas, adenomyosis and endometrial polyps.

Conclusion : This study confirms previous international published data that benign pathologies are more common in hysterectomy specimens than their malignant counterparts and that the most common pathology identified in hysterectomy specimens is leiomyoma. The clinical and pathological correlation is 100% in cases of leiomyoma, adenomyosis and endometrial polyps.

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Hysterectomy is one of the common surgical procedures in peri and postmenopausal women; it is the second most common surgical procedure in USA¹. According to the center of disease prevention and control about 5 out of every 1000 women undergo hysterectomy each year in USA². According to the center for disease control and prevention in United States, about 5 per 1000 women undergo hysterectomy annually in USA and about 1 in 4 women will have hysterectomy by the age of 60 years². Hysterectomy is considered a life saving procedure in women with certain types of cancer and in acute uterine hemorrhage. It also improves the quality of life for women with certain uterine pathologies such as fibroids, endometriosis and uterine prolapse². With accurate selection of patients and the route of hysterectomy, morbidity and mortality is low.

This study is a retrospective review of the pattern of uterine pathologies at hysterectomy in order to identify the most common uterine pathologies in this region and correlate them with their clinical indications.

METHOD

The record of patients who had hysterectomy and their specimens in the period between January 2000 and December 2003 were retrieved and studied.

The diagnosis was extracted from the pathology reports and the histological slides were reviewed, whenever there was uncertainty about the final diagnosis. In cases of more than one pathologic diagnosis, both diagnoses were counted by including them separately in their assigned category. In addition, the total number of hysterectomy specimens with more than one pathology and the commonest pathologic combinations were calculated. Patient's age, clinical presentation and clinical indication, as well as the type of hysterectomy were reviewed. The correlation between the clinical and true pathologic diagnosis was estimated.

RESULT

A total of 179 hysterectomy specimens were retrieved between January 2000 and December 2003. The patient's age range was 23-90 years with a mean of 49 years old. Hysterectomy was most commonly performed because of abnormal vaginal bleeding and less commonly of chronic pelvic pain. The most common clinical indication for hysterectomy (Table I) was present and previous malignancies 50 (27.9%) including cases of therapeutic and follow up hysterectomies for endometrial, ovarian tumors, as well as cervical in situ and invasive carcinoma followed by uterine leiomyoma 44 (24.5%). Other clinical indications included dysfunctional uterine bleeding 29 (16.2%), uterine prolapse 15 (8.3%), endometrial polyps 10 (5.5%), adenomyosis 5 (2.7%) and endometrial hyperplasia 6 (3.3%). Emergency hysterectomy for postpartum hemorrhage and placenta accreta accounted for 15 (8.3%). In two cases hysterectomy was performed in the course of surgical removal for non-gynecologic malignancies in nearby organs such as rectum and bladder. Chronic pelvic pain was the indication for hysterectomy in 3 (1.6%).

TABLE I: CLINICAL INDICATIONS FOR HYSTERECTOMIES

CLINICAL INDICATION	NUMBER OF CASES	PERCENTAGE
Uterine Leiomyoma	44	24.5%
Therapeutic&followup hysterectomies for previous and present gynecological malignancies	50	27.9%
Dysfunctional uterine bleeding	29	16.2%
Endometrial polyp	10	5.5%
Adenomyosis	5	2.7%
Endometrial Hyperplasia	6	3.3%
Emergency hysterectomies for Post partum Hemorrhage or Placenta Accreta	15	8.3%
Hysterectomy during operation of non-gynecological malignancies	2	1.1%
Uterine Prolapse	15	8.3%
Chronic pelvic pain	3	1.6%
Total	179	

Abdominal hysterectomy was the preferred approach in 153 (85.4%) (Table II). The vaginal route was used in 24 (13.4%) and two cases underwent laparoscopic hysterectomy, one for leiomyoma and the other for dysfunctional uterine bleeding.

TABLE II: ROUTE OF HYSTERECTOMIES

ROUTE	NUMBER	PERCENTAGE
Abdominal	153	85.4%
Vaginal	24	13.4%
Laparoscopic	2	1.1%

The most common pathology identified (Table III) was leiomyoma 62 (34%), followed by adenomyosis in 33 (18.4%) and endometrial polyp in 24 (13.4%).

TABLE III: PATTERN& FREQUENCY OF UTERINE PATHOLOGIES IDENTIFIED IN 179 HYSTERECTOMY CASES

PATHOLOGY IDENTIFIED	NUMBER	PERCENTAGE
Leiomyoma	62	34%
Adenomyosis	33	18.4%
Endometrial polyp	24	13.4%
Uterovaginal prolapse	15	8.3%
Gynecological malignancies	38	21%
Disordered proliferative e., atrophic e., simple hyperplasia, chronic endometritis	12	6.7%
Uterine congestion in pph and placenta accreta	15	8.3%
Combined pathologies	57	32%

Hysterectomies done for uterovaginal prolapse 15 (8.3%) showed atrophic endometrium on histopathological examination. Other less frequent pathologies identified included cystic atrophy, disordered proliferative endometrium and simple hyperplasia 12 (6.7%). One case of granulomatous endometritis was found. In 57 (32%) of hysterectomy specimens more than one pathology was identified. The most common combination was leiomyoma and adenomyosis in 13 (7.2%).

The final pathologic (true) diagnosis confirmed the clinical indication (diagnosis) in all cases (100% correlation) of leiomyomas, adenomyosis and endometrial polyps. In cases diagnosed clinically as endometrial hyperplasia (6 cases), one case was confirmed pathologically as such; the other five cases were proved to be either adenomyosis (two cases), leiomyoma, endometrial polyp or disordered proliferative endometrium (one case each).

The twenty-nine cases diagnosed clinically as dysfunctional uterine bleeding were pathologically proven as follows: Two (7%) leiomyoma, nine (31%) adenomyosis, three (10%) endometrial polyps, six (21%) disordered proliferative and atrophic endometrium and 4 cases (14%) cystic hyperplasia. The remaining five cases (17%) of dysfunctional uterine bleeding revealed more than one pathology on histological examination including three cases of leiomyoma with adenomyosis, one case of leiomyoma with endometrial polyp and one case of leiomyoma with disordered proliferative endometrium. Fig. I illustrates this clinicopathologic correlation in cases of dysfunctional uterine bleeding.

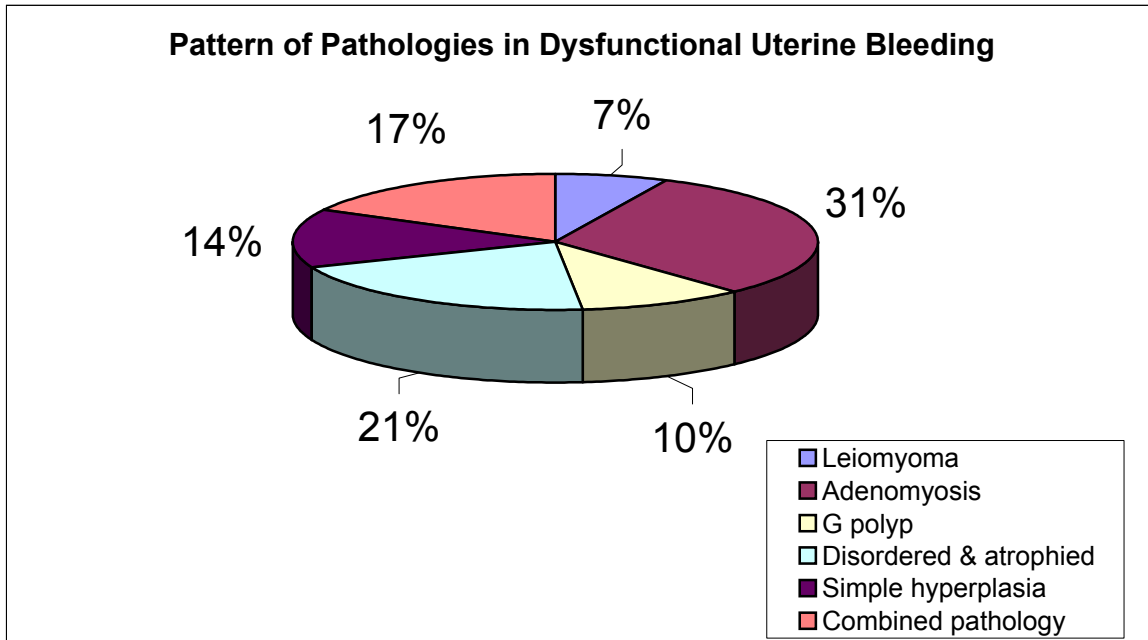


FIG 1: PATTERN OF PATHOLOGIES IN DYSFUNCTIONAL UETRINE BLEEDING

DISCUSSION

Hysterectomy is a common surgical procedure performed on women in the peri and postmenopausal period. It is usually performed to relieve symptoms such as abnormal vaginal bleeding and pelvic pain and is often also performed as a definite management for gynecological diseases such as fibroids, endometriosis, adenomyosis and uterovaginal prolapse².

Few studies have been preformed describing the pathologic findings in hysterectomy specimen and examining the relationship between the preoperative clinical indication and pathologic diagnosis^{3,4,5,6,7}.

The most common clinical indication in this study is hysterectomies for present and previous gynecologic malignancies followed by uterine fibroid, dysfunctional uterine bleeding, and uterine prolapse. Our study differs from the previously published studies that benign lesions, such as, uterine fibroids were the most common clinical indication^{4,5,7}. Shergill et al reviewed 100 cases of hysterectomies and the most common clinical indications were uterine fibroid (34%), dysfunctional uterine bleeding (26%) and uterine prolapse (24%)⁵. The high number of hysterectomies for gynecologic malignancies can be explained by the fact that our centre is a tertiary oncology referral centre with full time gynecology oncologists.

Shergill et al in his study of 100 hysterectomies specimens, out of which clinical diagnosis of liomyomas and adenomyosis in 38 cases, of these histopathological confirmation of liomyomas was seen in 25 cases and adenomyosis in 3 cases⁵. In this study out of 26 cases clinically

diagnosed as DUB, six cases showed leiomyoma, nine cases showed adenomyosis and endometrial polyps were present in three cases.

Ojeda et al reviewed six hundred and twenty-one hysterectomies and the histopathologic examination revealed leiomyoma to be present in 278 (44.76%), endometrial hyperplasia in 139 (22.33%), adenomyosis in 87 (14.00%), malignant diseases in 76 (12.23%) and endometriosis in 40 specimens (6.44%)⁶. There were no histological abnormalities in 54 specimens of that series.

The commonest surgical approach in the majority of cases in this study was abdominal hysterectomy. Chryssiopoulos et al studied 3,410 total hysterectomies over a period of 16 years and the abdominal approach was preferred in 85.33% and the vaginal route in 14.67%⁸. Since vaginal hysterectomy carries less risk and complications, this route is encouraged especially if the disease is confined to uterus and the uterine weight is less than 280 gram⁹. In recent years, other alternatives to hysterectomy have been developed in order to decrease postoperative complications; these include endometrial ablation and uterine artery embolization of fibroids¹⁰.

CONCLUSION

The result of this study is in concordance with the previously international published data as regards to the most common pathologies identified in hysterectomies and the commonest surgical route for hysterectomy.

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