

A CLINICOPATHOLOGICAL REVIEW OF ELECTIVE ABDOMINAL HYSTERECTOMY

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ABSTRACT

Objective To review correlation between indications and histopathology of elective abdominal hysterectomy.

Study design Descriptive study.

Place & Duration of study Lyari General Hospital, Dow University of Health Sciences Karachi from June 2005-to May 2007.

Patients and Methods Data including age, parity, presenting symptoms and indications for hysterectomy was extracted from files and histopathology of all hysterectomy specimens was collected for detailed study.

Results During 2 years a total of 54 elective abdominal hysterectomies were performed. Abdominal hysterectomy rate was 4.4 /1000 during study period. In 97% indications were for benign conditions. Peak age incidence was 41-50 years and peak parity was 4-6. In 27.7 % indication for hysterectomy was menstrual problem followed by leiomyoma in 22.2 %. On histopathology of uterus in 59.2 % leiomyoma and in 24% adenomyosis were confirmed. There was no mortality associated with the procedure.

Conclusions Menstrual disturbance is leading indication of hysterectomy and leiomyoma is the commonest pathology. Adenomyosis is main cause of menstrual problem.

Key words Abdominal hysterectomy, Histopathology, Leiomyoma, Adenomyosis.

INTRODUCTION:

Abdominal removal of uterus is total abdominal hysterectomy and supracervical is subtotal hysterectomy.¹ Charles Clay performed first subtotal hysterectomy in Manchester, England in 1843 and first total in 1929.² Since early 20th century, hysterectomy is a definite treatment of pelvic pathology including fibroid, abnormal heavy bleeding, chronic pelvic pain, endometriosis, adenomyosis, uterine prolapse, pelvic inflammatory disease and cancer of

reproductive organs.³ It is one of the most common surgical procedures having a rate of 6.1-8.6/1000 in all ages.⁴ Twenty percent of women in the U.K and 37 % in the U.S.A have had a hysterectomy by the age of 60 years. Life time risk of hysterectomy is 25% in the U.S.A, 10.5% in Denmark and 28/10,000 in NHS hospital of England and Wales per anum.⁵

Prevalence of hysterectomy in the U.K is 100,000 / year, 500,000 / year in USA and >70,000/ in the England.⁵ In Pakistan hysterectomy prevalence studies are not available.⁶ Many gynecologists prefer abdominal route for hysterectomy, around 60-80% of hysterectomies in the USA and the UK are abdominal.^{5,7} Eighty three percent gynecologist

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recommend oophorectomy in postmenopausal women, 50% in perimenopausal women and <5% in premenopausal women at the time of hysterectomy.⁸

Subtotal abdominal hysterectomy is safe and quick but has 1% chance of developing cancer in the cervical stump and 5% incidence of persistent blood stained discharge from residual endometrium. With induction of vaccine against human papilloma virus, the risk of cervical stump cancer is negligible and remaining cervix enhances female sexual response and protects from bowel and bladder dysfunction.⁵

Alternative of hysterectomy are levonorgestrel releasing intrauterine system (LNG-IUS), endometrial ablation, myomectomy and uterine artery embolisation. LNG-IUS is effective in reducing menstrual loss but on failure ends upon hysterectomy. Endometrial ablation techniques have short operating time and hospital stay, quicker recovery and fewer post operative complications, but long term studies showing narrowing of gap. Hysterectomy appears to have consistently higher rates of satisfaction. Myomectomy results in overall 80% resolution of menorrhagea symptoms but associated with post operative morbidity and longer hospital stay, 4-47% risk of recurrence and 98% risk of adhesion formation. Umbilical artery embolisation gives 60-90% rate of improvement and 70% rate of fibroid shrinkage and hysterectomy rate is 0.2%.⁵

Ultimate diagnosis is only on histology, so every hysterectomy specimen should be subjected to histopathological examination.⁷ Major post operative complications like pelvic organ dysfunction are not common. Younger women with vascular pelvises treated for fibroids are at greater risk of visceral injury than older women. Rate of visceral injury are 0.5-2%.⁵ Vault granulation occurs in 21% of women after total abdominal hysterectomy even if polyglactide sutures are used. They often cause symptoms.⁹ Mortality rate from hysterectomy is 0.5-2 /1000.⁵

This study aims to determine correlation between indications and histopathological diagnosis of elective abdominal hysterectomy.

PATIENTS AND METHODS:

This was a retrospective review of all cases who underwent elective abdominal hysterectomy from June 2005 to May 2007 at Lyari General hospital Karachi. All vaginal and obstetric hysterectomies were excluded. Patients received in outdoor department with fibroid, ovarian tumors, pelvic mass, abnormal vaginal bleeding, pelvic inflammatory disease, were admitted. During pre operative preparation majority of the patients were found to be anaemic. After correction of anaemia and other medical problems in collaboration with medical team, surgery was performed. Patients were discharged between 5th- 7th post operative day after receiving histopathology report. Out patients follow-ups were done fortnightly for six weeks.

RESULTS :

During two-year study period elective abdominal hysterectomy (n=54) accounts 44% of major surgical procedures. Indications of hysterectomy varied from menstrual abnormalities to suspected pelvic malignancy. Ninety three percent were for benign and 7 % were for malignant indications. Most of them had more than one indication. Main indications are shown in table 1. Peak age frequency was 41- 50 years. The relationship between age and histopathological diagnosis of the specimen is shown in table II. Peak parity frequency was 4-6. The relationship between parity and histopathological diagnosis is shown in table III.

Table I. INDICATIONS FOR HYSTERECTOMY (n==54)

INDICATIONS	NO	PERCENTAGE
Menorrhagia/ DUB	15	27.7
Menorrhagia/ Leiomyoma	8	14.8
Leiomyoma	12	22.22
Pelvic pain	9	16.66
Benign Ovarian Cysts/ Tumors	6	11.11
Suspected Malignancy	4	7.4

Table II RELATIONSHIP BETWEEN AGE AND HISTOLOGICAL FINDINGS (n=54)

Age	Fibroid	Adeno-myosis	Ovarian Cyst	Ovarian Tunor	Chronic Pelvic Infection	Endome-triosis	Malignancy	Misc
21-30	2	16	1	4	2	-	-	-
31-40	13	1	5	4	10	2	2	-
41-50	17	11	3	3	11	-	2	-
51-60	-	-	-	2	-	-	-	-
>60	-	-	-	-	-	2	-	-

TABLE III. RELATIONSHIP BETWEEN PARITY & HISTOLOGICAL FINDINGS (n=54)

Parity	Fibroid	Adeno-myosis	Ovarian Cyst	Ovarian Tunor	Chronic Pelvic Infection	Endome-triosis	Malignancy	Misc
0	7	-	2	1	3	2	-	-
1-3	4	-	1	2	3	1	1	1
4-6	12	8	5	2	10	2	-	1
<6	9	5	1	4	8	2	3	-

On histopathology in many hysterectomy specimen more than one pathology was found (e.g leiomyoma, chronic cervicitis, endometriosis). Leiomyoma was the commonest pathology found in 32 (59.2%) cases. Histopathology of 15 (27.7%) cases of menstrual disturbance was leiomyoma in 5 (33.3%), endometrial polyp1 (6.6%) and adenomyosis 8 (53.3%) cases while DUB confirmed in1 (6.6%) case. Histopathology of 4 (7.4%) cases of suspected malignancy was squamous cell carcinoma of cervix 2 (50%), adenocarcinoma of ovary 1 (25%), papillary serous carcinoma

of ovary 1 (25%) case (table 1V). There was no mortality associated with the procedure.

TABLE 1V. HISTOPATHOLOGICAL FINDINGS OF HYSTERECTOMY SPECIMEN (n=54)

Uterus	No	Percentage
Leiomyoma	32	59.2
Adenomyosis	13	24
Leiomyoma & Adenomyosis	5	9.2
Chronic non specific Cervicitis/ Endometritis	24	44.4
Endometrial polyp	1	1.8
Malignancy (cervical)	2	3.7
OVARIES		
Normal	27	50
Ovarian Cyst	9	16.6
Ovarian Tumors	9	16.6
Endometriosis	7	12.9
Malignancy	2	3.7

DISCUSSION

Pakistani women seek medical help late as compared to women from developed countries so conservative treatment can't be offered to them. Most of the time hysterectomy is best option for their gynecological problem. Abdominal hysterectomy rate in our study is 4.4 /1000. It was 6.1 /1000 in another study from Pakistan in year 2003 and 6.3 /1000 in Robert study.^{3,10} Gavin et al found significant fall in abdominal hysterectomy rate from 4 /1000 in 1994 to 3.4 /1000 in 2003 for benign diseases due to use of laparoscopic and hysteroscopic procedures, endometrial ablation devices, progesterone based intrauterine devices and umbilical artery embolisation as a substitute to hysterectomy.¹¹

Abdominal route was used for all cases. Vaginal route was reserved for cases of genital organ prolapse. In the UK and USA around 60-80 % hysterectomies are abdominal. Abdominal route is associated with longer hospital stay, increased complications and higher cost but due to practice styles, training habits and performances of gynecologist most of the gynecologist still continue to use abdominal approach for hysterectomies that could be performed vaginally. Abdominal route is the choice for more serious pathologies and vaginal route is appropriate for less serious diseases.^{5,7,12,13}

Peak age incidence of most of the pathologies was 41-50 years and peak parity 4-6. Indications in 93% were benign diseases. In USA 91.7% hysterectomies are for benign indications.¹⁰ In our study main indication for hysterectomy was menstrual disturbance (42.5 %) out of which 14.8% also had leiomyoma. Same is reported from a study from Karachi.¹⁴ In two other studies incidence of menstrual problem was 45% and 38%⁶, almost similar to our study. In perimenopausal

years hormonal disturbance results in symptomatic menstrual changes. Leiomyoma (22.2%) accounts for second leading cause of hysterectomy. In many studies it is the leading indication of hysterectomy.^{5,15}

On histopathology leiomyoma was commonest pathology (59.2%). It was the main pathology in many studies. Its incidence is 25.8 % in Abbah city of Saudi Arab, 78% in USA, 48 % in Nigeria and 8 % in Swedon.^{7,16,17,18} Geographical and racial influences are thus apparent on the prevalence of uterine leiomyoma. Its peak age prevalence was 41-50 years (53.1%) almost similar to study from Saudi Arab (48%).⁷ Age range of 30-44 years is reported in Aboyaji et al study from Ilorin, Nigeria in 78 % cases.¹⁹ Majority (37.5%) was multipara, while other studies showing its high prevalence in low parity group.⁷ Due to multiparity hysterectomy was treatment of choice for them as it decreases the morbidity associated with massive vascular leiomyoma.²⁰

Adenomyosis was next common uterine pathology as seen in other studies.^{7,21} Its prevalence was (24 %) almost similar to national figures (21%). Almost same figure was found in a study from Karachi (20.6 %) and Swat (20.6%).^{22,23} Its incidence in an Indian study is 26 %, in Italy 24.9% and in West Indies 6% .^{15,24,25} Incidence of adenomyosis rises with rising parity which supports the theory of implantation of the basal endometrium deep in the myometrium.²¹ In cases presented with menstrual disturbance uterine pathologies was adenomyosis (53.3%), leiomyoma (33.3%), endometrial polyp (6.6 %). Abnormal uterine bleeding confirmed in (6.6%). Menstrual disturbance due to adenomyosis is generally refractory to medical treatment and endometrial resection.¹⁴

MRI is highly specific for accurate diagnosis of adenomyosis, however it is expensive and not available in most hospitals but transvaginal ultrasound is good option and features like poor definition of endometrial myometrial junction and sub endometrial linear striations, heterogeneous myometrial texture, globular uterus have the highest accuracy.^{14,26,27,28} Therefore in women with menstrual problem and features of adenomyosis on transvaginal ultrasound, hysterectomy should be offered earlier to curtail the sufferings.¹⁴ Prevalence of abnormal uterine bleeding (6.6 %) is, almost similar to other studies.²¹

CONCLUSIONS:

Hysterectomy still remains the widely used treatment modality even in the developed countries. Menstrual disturbance is leading indication while leiomyoma is the commonest pathology. Adenomyosis is the main cause of menstrual problem.

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