

Hysterectomy Abdominal or Vaginal

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A descriptive cross-sectional comparative study was conducted & retrospective data collection was carried out in Department of Obstetrics and Gynecology Lahore General Hospital, Lahore. 285 hysterectomies were performed during the period from December 1996 to May 1998. Out of these 285 hysterectomies 190 were carried by abdominal route and 95 through vaginal route (ratio is 1:2). The maternal age incidence showed that 55.8% of the patients undergoing abdominal hysterectomy were of the age between 30 to 49 years whereas 61% of patients undergoing vaginal hysterectomy were of the age between 50 to 60 years. On 12 cases (6.3%) abdominal hysterectomy was performed on nulliparous, whereas 74 cases (80%) operated for vaginal hysterectomy were grandmultiples. Indications of hysterectomy were uterine myoma, utero-vaginal prolapse, dysfunctional uterine bleeding, endometriosis, pelvic inflammatory disease, malignant ovarian tumours and carcinoma endometrium. Commonest postoperative complication was haemorrhage in 9.3% of cases of abdominal hysterectomy and 7.3% cases of vaginal hysterectomy. Urinary tract infection in 6.3% cases of abdominal hysterectomy was observed and in 8.4% of vaginal hysterectomy. Wound became infected in 5.8% cases of abdominal hysterectomy and vault abscess/haematoma in 3.1% cases of vaginal hysterectomy ($p = .073$, chi square = 3.21, R.R. = 1.34). The mean postoperative hospital stay for abdominal hysterectomy was 7 days and in case of vaginal hysterectomy was three to four days. This study concludes that vaginal hysterectomy should be preferred over abdominal hysterectomy, where possible as its morbidity is much less than abdominal procedure.

Key Words: abdominal hysterectomy, vaginal hysterectomy.

Langenbeck first performed vaginal hysterectomy in 1813¹. Czerny technically reviewed it in 1879 and credit for the modern operation is given to Koeberle. Early vaginal hysterectomy was done for uterine prolapse or uterine inversion only. In 1825 Langenbeck² made 1st attempt to remove uterus through abdominal incision. This operation was done for advanced carcinoma of cervix, but patient died several hours later. In 1853 Kimball of Lowell and Massachusetts did 1st abdominal hysterectomy for Leiomyomas³. In those days generally operative mortality for abdominal hysterectomy was 80–90%. In early days abdominal hysterectomy performed was subtotal. In 1929 Richardson of Johns Hopkins 1st published his simplified method for removal of cervix at the time of abdominal hysterectomy.

Study Design

Descriptive cross-sectional comparative study was carried on a total number of 285 cases of hysterectomies conducted in Obstetrics and Gynecology Unit of Lahore General Hospital, Lahore for a period of 1 ½ Years (December 96 to May 98).

The aims & objectives of the study were to compare the indications and complications of abdominal and vaginal hysterectomies in order to decide the preferable route of hysterectomy procedure.

Material and methods

Retrospective data was collected on hysterectomies conducted between Dec. 96–May 98. A detailed history was taken on admission of the patient. General physical and systemic examination was done. Speculum

examination was done and Pap smear was taken in every case. Bimanual examination was carried out and routine investigations were performed in every patient. Liver function tests, Renal function tests, X-ray Chest, ECG was done wherever required. Patients having urinary, genital tract or any other infection were treated first with antibiotics. Large vaginal and cervical ulcers were given time to heal either by daily vaginal packing with roll gauze soaked in acriflavin glycerin or ring pessary.

Indications for Operation

The indications of abdominal hysterectomy (Table I)

Table I: - Indications for operations

Type of Indication	Abdominal Hysterectomy	Vaginal Hysterectomy
(a) Dysfunctional Uterine Bleeding	87 (45.9)	21 (23)
□ Normal size uterus	--	2
□ Uterus size 6-8 Wks.	--	12
□ 8-10 Weeks.	--	3
□ 10-12 Weeks.	--	4
(b) Markedly obese patients with D.U.B.		
Uterine myoma	58 (30.5)--	8 (8.4)
U.V. prolapse	--	60 (63.2)
CX Myoma	--	2 (2)
Endometriosis	10 (5.2)	--
Chronic P.I.D.	8 (4.2)	--
Carcinoma ovary	19 (9.5)	--
Ca. Endometrium	8 (4.2)	--
Total	190 (66.66)	95 (33.34)

(Figures in parentheses are percentages)

Investigations

All the patients were thoroughly investigated before surgery. Hemoglobin estimation was carried out in every patient. Patients having hemoglobin above 10gm% were selected for surgery. Those having Haemoglobin Level below 10gm% were build-up either by giving blood transfusion or iron preparation, depending on the need how urgently the surgery was to be performed Urine analysis and blood sugar levels were done. ECG and X-ray chest were done for patients aged 40 years or more.

Anaesthesia

General, spinal or epidural anaesthesia was given according to the choice of anaesthetist.

Results

Out of total 285 hysterectomies carried out during the study period of 1 ½ Years, 190 (66.6%) were abdominal hysterectomies and 95 (33.3%) were vaginal hysterectomies (Table III). The ratio of abdominal versus vaginal hysterectomies is 2:1

Table: - II. Incidence of Hysterectomy

Year	Abdominal Hysterectomy	Vaginal Hysterectomy
Dec. 96 – Nov.97	134 (47.2)	65 (22.8)
Dec. 96 – May-98	56 (19.6)	30 (10.5)
Total	190 (66.6)	95 (33.3)

(Figures in parentheses are percentages)

NOTE: Cases of caesarian hysterectomies are not included in this study.

The majority of patients undergoing abdominal hysterectomy (55.8%) were between the age of 30–49 years. 27.9% were between the age of 50 – 60 years, whereas 16.3% patients were of age 70 and above (Table III). Regarding vaginal hysterectomy 61% patients were between age of 50 – 60 years, ¼ of the patients were between age of 30 – 49 years and only few patients were of the age 70 and above.

Table III: - Age

Age in Years	Abdominal Hysterectomy	Vaginal Hysterectomy
30-40	106 (55.8)	24 (25.2)
50-60	53 (27.9)	58 (61)
70 & Above	31 (16.3)	13 (13.7)

(Figures in parentheses are percentages)

Table V: - Parity

Parity	Abdominal Hysterectomy	Vaginal Hysterectomy
Nullipara	12 (6.3)	None
Primipara	14 (7.4)	2 (2.1)
P2-5	108 (56.8)	19 (20)
Grandmultipara	56 (29.5)	74 (77.9)

(Figures in parentheses are percentages)

56.8% of patients undergoing abdominal hysterectomy were para 2–5 & 29.5% were grandmultipara. More than two third of the cases were grandmultipara who underwent vaginal hysterectomy. None of the patients was nullipara in our study.

Complications

Complications were grouped into complication of anesthesia and complications of surgery (Table V). The complications of anesthesia were due to difficult intubations and delayed recovery occurred in 3 cases of abdominal hysterectomy. As far as complications of surgery were concerned, bleeding during operation occurred in 9.5% cases of abdominal hysterectomy and 5.2% cases of vaginal hysterectomy. In two patients undergoing vaginal hysterectomy bleeding occurred three hours after operation. These patients were settled by tight vaginal packing, 5.3% patients undergoing abdominal hysterectomy developed paralytic illeus and abdominal distension; it was settled by adequate fluid and electrolyte replacement. Postoperative fever occurred in 11% cases of abdominal hysterectomy and 9.4% cases of vaginal hysterectomy.

Table V: - Complication of Surgery

Type of Complications	Abdominal Hysterectomy	Vaginal Hysterectomy
Bleeding during operation	18 (9.5)	5 (5.2)
Bleeding 3 hours after operation	--	2 (2.1)
Post Operative Fever	21 (11)	9 (9.4)
Illeus & Abdominal Distention	10 (5.30)	--
Urinary Tract Infection	12(6.3)	8 (8.4)
Pelvic Infection	7 (3.7)	3 (3.1)
Wound Infection	11 (5.8)	--
Vault abscess / haematoma	--	3 (1.1)
Bowel injury	1 (0.5)	--
Ureteric injury	2 (1)	1 (1)
Incisional hernia	1 (0.5)	--
No. comp observed	107 (53.2)	64 (66.3)
Mortality	None	None
TOTAL	190	95

(Figures in parentheses are percentages)

(Difference in post operative complications at $p = .073$, Mantel Haenszel Chi – square 3.21, R.R = 1.34)

Urinary tract infection occurred in 6.3 % cases of abdominal hysterectomy and 8.4% cases of vaginal hysterectomy, 5.8% cases undergoing abdominal hysterectomy developed wound infection. Vault abscess / haematoma was detected in 1.1% cases of vaginal hysterectomy either because they were running temperature or passing small clots through vagina, these cases were settled by giving appropriate antibiotics

according to culture sensitivity reports, none required drainage. Small bowel injury occurred in one cases of abdominal hysterectomy. There were no ureteric injuries, but two cases undergoing abdominal hysterectomy and one cases of vaginal hysterectomy had bladder injury. These were the cases, which were operated for chronic pelvic inflammatory disease or endometriosis. Primary closure of the bowel and bladder was done and the patients recovered smoothly. Incisional hernia developed in one case of abdominal hysterectomy. No complication observed in 53.2 % cases of abdominal hysterectomy as compared to 66.4 % cases of vaginal hysterectomy. There was no mortality in this study.

After hysterectomy report of histopathological examination of every specimen was obtained. Prophylactic antibiotic was given for five days post operatively. Those patients having smooth postoperative recovery were discharged on 3rd to 7th postoperative day. All the patients were re-examined after six weeks post operatively in outpatients.

Hospital Stay

In this study 67.3% cases of abdominal hysterectomies were discharged on 6th -7th days post operatively (Table VI). More than ¾th of the patients undergoing vaginal hysterectomy were discharged on 3rd-4th postoperative day. All the patients were re-examined six weeks post-operatively in outpatient.

Table VI: -Hospital Stay

Duration	Abdominal Hysterectomy	Vaginal Hysterectomy
3-4 days	35 (18.4)	75 (79)
6-7 days	128 (67.3)	18 (18.9)
10-15 days	27 (13.6)	2 (2.1)

(Figures in parentheses are percentages)
 (Difference in hospital stay more than seven days. At p=.0014, M.H.Chi-sq. = 10.12. R.R.=6.75)

Discussion

This study provides analysis of hysterectomy cases done by abdominal and vaginal route. The incidence of vaginal hysterectomy to abdominal hysterectomy varies from 1:4⁴ or less, in our study it was 1:2. It was because 63.2% of vaginal hysterectomies were done for the indication of utero-vaginal prolapse⁵⁻⁶, which is not as much common abroad as in our setting. The mean age of patients for abdominal hysterectomy was 30-49 years, majorities were upto para 5, for vaginal hysterectomy mean age was 50-60 years and almost 80% of patients were grandmultipara. This is comparable to the study conducted by N. Zahir⁷, which shows age between 31-60 years in patient undergoing hysterectomy. Although endometrial ablative procedures are becoming more popular for treatment of dysfunctional uterine bleeding, but as such facility is not available in our government setup, so dysfunctional uterine bleeding was the most common indication of abdominal

hysterectomy⁸⁻⁹. In-patient who is very obese, vaginal hysterectomy is a very suitable procedure for this indication¹⁰. As there is no abdominal wound, so no post-operative problem i.e. wound infection, burst abdomen and hernia formation. In this study common indication for abdominal hysterectomy was uterine myoma¹¹. Despite of the fact that 27% of vaginal hysterectomies were performed for cases of dysfunctional uterine bleeding and 8.4% for uterine myoma, more vaginal hysterectomies could be carried out if the patients are evaluated pre-operatively. Examination under anaesthesia should be done in every case. Sufficient descent, a deep fornix and free vaginal mucosa are favourable indications for a vaginal hysterectomy. A study by Hoffman MS¹² concluded that in selected patients transvaginal morcellation is a safe and effective alternative to abdominal hysterectomy for removal of moderately enlarged uterus. In this study vaginal hysterectomy was not carried out for endometrial cancer, but it is recommended in stage-1 in women with extreme obesity and medical risk factors¹³⁻¹⁴. Laparoscopic assisted vaginal hysterectomy completed the oncologic treatment if lymphadenectomy is necessary. The majority of complications were infections or febrile. This was comparable to the study conducted by Perineau M and his colleagues¹⁵⁻¹⁶. Reduction in postoperative infection rate was seen among women who were given pre or postoperative antibiotics¹⁷. Proper attention should be paid towards haemostasis; all the pedicles should be properly transfixed to avoid bleeding. Fortunately in my study, in 7 cases of vaginal hysterectomy, the bleeding stopped by tight vaginal packing. Now routine laparoscopy at the completion of vaginal hysterectomy is recommended¹⁸⁻¹⁹. There were 3 bladder injuries and one bowel injury during operation. No fistula formation was reported. These cases of bladder & bowel injury were operated for chronic pelvic inflammatory disease or endometriosis. Meticulous attention should be paid while separating the tissue in order to prevent such injuries²⁰. The hospital stays in vaginal hysterectomy cases was much less than in abdominal hysterectomy cases. In 79% cases it was only 3-4 days. Early discharges following uncomplicated vaginal hysterectomy in selected patients appear to be safe procedure, appreciated by the majority of women²¹. A study conducted in USA in 1998 also showed that vaginal hysterectomy resulted in better quality of life outcomes and lower utilization and costs compared with abdominal hysterectomy²²⁻²³

Conclusion

Vaginal hysterectomy should be preferred over abdominal hysterectomy whenever possible, because it has much less morbidity as shown in the study. No complication was observed in 66.3% cases of vaginal hysterectomy as compared to 53.2% cases of abdominal hysterectomy. There is less postoperative pain, cosmetically no

abdominal scar and more rapid convalescence. Secondly the hospital stay is much less in vaginal hysterectomy cases. In 79% of cases of vaginal hysterectomy the stay was only 3-4 days thus it is potential cost saving procedure for community.

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