Vaginal hysterectomy vs abdominal hysterectomy

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ABSTRACT

This was a prospective study, conducted to analyze the intraoperative complications, postoperative morbidities and complications between abdominal and vaginal hysterectomy. This study was carried out on 100 patients (50 cases abdominal and 50 cases vaginal hysterectomy), in Services Hospital, Lahore in the year 2002 from April to December. Among the intraoperative observation, the mean duration of surgery of abdominal hysterectomy was 96.8 min and that of vaginal was 89 min (p=0.0192). The mean blood loss in abdominal hysterectomy was 311ml and that in vaginal hysterectomy was 244ml (p=0.0017). Postoperatively febrile morbidity was seen in 10 (20.0%) cases of abdominal hysterectomy group and 6 (12.0%) of vaginal hysterectomy group. Wound infection was the main cause for febrile morbidity in abdominal hysterectomy group where as urinary tract infection was the main cause for febrile morbidity in vaginal hysterectomy. There was one case of bladder injury and 1 case of ureteric injury in abdominal hysterectomy group while none in vaginal hysterectomy group. There were 2 (4.0%) cases of postoperative haemorrhage in abdominal hysterectomy group and none in vaginal hysterectomy group. Vault infection occurred in 2 (4.0%) cases of both the groups. Two (4.0%) cases of paralytic ileus, 2 (4.0%) cases of chest infection and 1 (2.0%) case of rectal muscle hematoma were seen in abdominal hysterectomy group. Overall 39 (78.0%) cases of abdominal hysterectomy and 1 (32.0%) case of vaginal hysterectomy had complications (p=0.0002). This study showed that vaginal hysterectomy was associated with less intraoperative complications and postoperative morbidities and complications as compared to abdominal hysterectomy.

Keywords: Abdominal hysterectomy, vaginal hysterectomy, morbidities, complications.

INTRODUCTION

Hysterectomy is one of the most common surgeries performed in gynecology. It can be performed by vaginal and abdominal route. A large scale survey of hysterectomy has shown that 70.0% to 80.0% of hysterectomy are performed by the abdominal route.[1] Only 10.0% of hysterectomy done by vaginal route.[2] Many studies have been done to compare between abdominal and vaginal hysterectomies regarding morbidity and complications. Dicker and his associates stated that since wide spread introduction of prophylactic antibiotics, vaginal hysterectomy is associated with less febrile morbidity, less bleeding necessitating transfusion, shorter hospitalization and faster convalescence than abdominal hysterectomy.[3] The same result were found in the study done by Khan.[4] Whereas Dorsey and his associates in their study found that postoperative morbidity and complications were similar between abdominal and vaginal hysterectomy but duration of the operation, hospital stay and recovery time is significantly greater in abdominal hysterectomy than vaginal hysterectomy.[5]

MATERIALS AND METHODS

This was a prospective study done in Services hospital Lahore conducted from April, 2000 to March, 2001. Hundred cases were included in the study. Among them 50 cases had TAH and 50 had VH. Indications of TAH were uterus size greater than 12 wks, Endometriosis, PID, presence of adnexal mass, unexplained pelvic pain, suspected malignancy. Indications for VH were uterovaginal prolapse, uterine size less than 12 wks, stress incontinence associated with vaginal wall prolapse / uv prolapse, premalignent condition of cervix, disfunctional uterine bleeding. Detail history taken and thorough physical examination done in all cases admitted for hysterectomy. All the investigations were sent for major operation as required. Prophylactic antibiotic, a single dose of third generation Cephalosporin 2gm iv was given just before Surgery and second dose after 12 hours of surgery in all the cases.

Intraoperative observation: Blood loss at time of operation was estimated by measurement of all aspirated blood and weighing of all soaked swabs according to normal practice. The length of operating time was recorded as the time from the surgical incision to time at which all wounds was closed and dressed. Intraoperative haemorrhage requiring transfusion was noted. Complication during operation like ureteric, bladder, bowel injury was noted if there was any.

Postoperative observations: All the patients were prescribed an identical regime of analgesia inj pethidine 50mg. inj phenergan 25mg im 8 hourly. Postoperative haemoglobin was estimated on second postoperative day to compare the drop in hemoglobin following the surgery. Postoperative temperature was recorded four hourly according to routine nursing practice. Febrile morbidity [oral temperature of 100 degree F or greater on any 2 postoperative days excluding the first 24 hours after operation) was recorded. Other postoperative morbidities such as haemorrhage, urinary tract infection, abdominal wound infection, vaginal vault infection, paralytic illeus, chest infection etc were noted. The duration of hospital stay from the morning of the first postoperative day up to and including the day of discharge was recorded. The criteria for discharging the patient were apyrexia for 24 hours, normal micturition normal bowel movement. Cases of TAH were discharged usually on seventh day after stitch removal and VH on fifth day. All the cases were advised for follow up 2 wks and 6 wks after discharge and were asked questions about their general state of health and return to normal activities.

RESULTS

The mean duration of surgery of TAH was 96.8 min and that of VH was 89 min p=0.0192 . The mean blood loss was also more in case of TAH group than that of VH group (311ml vs. 244ml) p=0.0017 .

Among the morbidities, the febrile morbidity was the most common morbidity in both groups, 10 (12.0%) in TAH group and 6 (12.0%) in VH group. The main cause for febrile morbidity in TAH group was due to wound infection, which was seen in 8 (16.0%) cases. While the main cause for febrile morbidity for VH group was UTI, 4 (8.0%). There was one case of bladder injury in a patient who underwent TAH which was repaired. It was a case of previous caesarean section with gross adhesion between bladder and uterus.Ureter was tied accidentally in one case of TAH due to slippage of ligature of uterine artery followed by haemorrhage. The injury was discovered postoperatively due to complaint of renal angle pain. The patient was referred to urosurgeon.

There were total 2 (4.0%) cases of excessive haemorrhage (>500ml) during operation in TAH group and 1 (2.0%) case in VH group. Postoperatively there were 2 (4.0%) cases of secondary haemorrage in TAH group which resolved with conservative management. There were 2 (4%) cases of vault infection with offensive discharge in TAH group. Among other post operative complications, there was 1 (2.0%) case of haematuria, 2 (4%) cases of paralytic ileus, 2 (4.0%) cases of chest infection in TAH group. 1 (2.0%) case of rectus muscle haematoma in TAH group which was also treated conservatively. There was 1 (2.0%) case of vault granulation in case of TAH group and 1 (2.0%) case of VH group. There were 2 (4.0%) cases of readmission for wound infection TAH group. Thus the total complications in TAH group were 39 (78.0%) and in VH group 16 (32.0%) p=0.002 .

The mean hospital stay of TAH group was 8.7 days and that of VH was 5.4 days p=0.0002 . Similarly the mean difference between preoperative and postoperative Hb was more in TAH. The mean Hb 1.2% vs 0.9% .Also more blood transfusion had to be given postoperative in TAH group 14 (28.0%) vs. 6 (12.0%) p = 0.0414 .

During follow up in second wk, in case of VH group there were 3 (6.0%) cases of vaginal discharge while 2 (4.0%) cases in TAH group. There were 2 (4.0%) cases of wound infection in TAH group needing rehospitalisation. There were 2 (4.0%) cases of febrile morbidity in both TAH group and VH group. Also there were 3 (6.0%) of cases of UTI in both TAH and VH group. TAH vs. VH p=0.4472 .

In sixth wk follow up, there were 1 (2.0%) of case of vaginal discharge in both TAH and VH group. There was 1 (2.0%) case of febrile morbidity in both VH and TAH group. Similarly 1 (2.0%) case of UTI in TAH and none inVH group. TAH vs. VH p=0.0.648 .

DISCUSSION

The duration of operation was in average 25 min more for TAH group .These findings are comparable with the study done by Dorsey *et al* and his group.[5] In their study TAH took in average 30 min longer than VH. While in TAH more blood loss occurred compared to VH in our study. In the study done by Ottosen *et al* peroperative blood loss was more in VH but the finding was not statically significant. [6] Similarly blood loss during TAH was more in the study done by Khan (1997) which is comparable to our study.[4]

The complication rate in case of TAH was 2.38 times more than that of VH, in our study. Febrile morbidity accounted not only for most of the overall morbidity in each group but also of all the most difference between the two groups .Febrile morbidity rate among the TAH was more than twice that of the VH group.The main cause of the febrile morbidity was wound infection (16.0%) in case of TAH group whereas in VH group it was UTI (8.0%).

The study done by Laventhal and Lazarus[7] contradicts the study done by us. In their study, morbidity ranged from 28.0% to 52.0% in VH group and 27.3% for TAH group. The main cause for morbidity was UTI (48.0%) in VH group, although the major complications like ureteric injuries, bladder injuries were found in TAH group. The difference in morbidity may be attributed to current wide spread use of prophylactic antibiotic with VH. Several recently conducted double blind trials have shown that prophylactic antibiotic use substantially reduces morbidity among women undergoing VH (Duff and Park).[8] The efficacy of prophylactic antibiotic with TAH is less well established.[9] Dicker and his associates in their study found that TAH has 1.7 times more risk of complication than VH. Febrile morbidity was also the major cause for morbidity but the cause for febrile morbidity could not be identified in 16.8% of TAH and 7.2 % of VH group.[3] After that in both the groups UTI was the commonest cause for febrile morbidity. The major operative complications like ureteric, bladder injuries were also found in TAH group.[3] Thus wound infection was the main cause for febrile morbidity in TAH group in our study. We can certainly reduce the morbidity of Hysterectomy by improving the sterilization and aseptic methods.

The hospital stay was longer in TAH group in our study. This finding is consistent with the study done by Ottosen and his associates[7] and Dicker and his associates.[1] Eary discharge even as early as within 24 hours after VH is possible. Reiner (1988) carried out a study 41 cases for feasibilities of early discharge(within 24 hours) after VH [10] In his study there were no cases of delayed infection, haemorrhage or other postoperative complication that could be attributed to early hospital dismissal. Some selective, healthy patient even can have the option of ambulatory surgery, outpatient Hysterectomy. A prospective trail evaluating the feasibility and safety of outpatient vaginal hysterectomy was conducted by shovel and his group[11] and by Bran and his group.[12] Majority of the patient were satisfied by their outpatient hysterectomy. Laparoscopic hysterectomy has been shown to have significant advantages over TAH.[13,14] But VH is lesser invasive and better operation than laparoscopic hysterectomy.[15] Laparoscopic hysterectomy is associated with long duration of operation, long recovery time and expensive due to disposable instruments.[16,17] If more women could undergo vaginal hysterectomy rather than abdominal hysterectomy, the reduction in morbidity and in length of stay would result in considerable savings in medical care costs. The reduction in morbidity would save additional money spent on therapeutic antibiotics, diagonostic tests, blood transfusion and fees. Thus we should encourage vaginal hysterectomy as much as it is feasible and possible for the patient's benefit.

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Table-1: Intraoperative observations

	Abdominal Hysterectomy			**Vaginal Hysterectomy**			**P Value**
	Range	**Mean**	**S.D**	**Range**	**Mean**	**S.D**	
Duration of Surgery (in minutes)	60-150	96.8	19.4	60-120	89	13.6	P=0.0192
Blood Loss (in ml)	100-600	311	141.5	100-500	244	79.2	P=0.0017

Table-2: Postoperative 0bservations

	Abdominal Hysterectomy			Vaginal Hysterectomy			P Value
	Range	**Mean**	**S.D**	**Range**	**Mean**	**S.D**	
Hospital stay (in days)	4-21	8.7	3.7	3-17	5.4	2.9	P<0.0002
Recovery period (in days)	10-55	35.7	12.0	7-45	23.3	12.0	P<0.0001
Hbgm% difference (between preoperative and postoperative)	0.2-2.8	1.23	0.7	0.1-2.6	0.9	0.5	P=0.0048

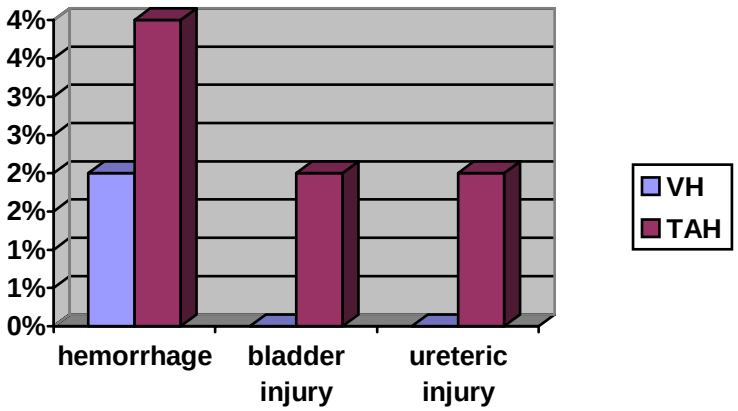

Fig. 1: Intraoperative complications

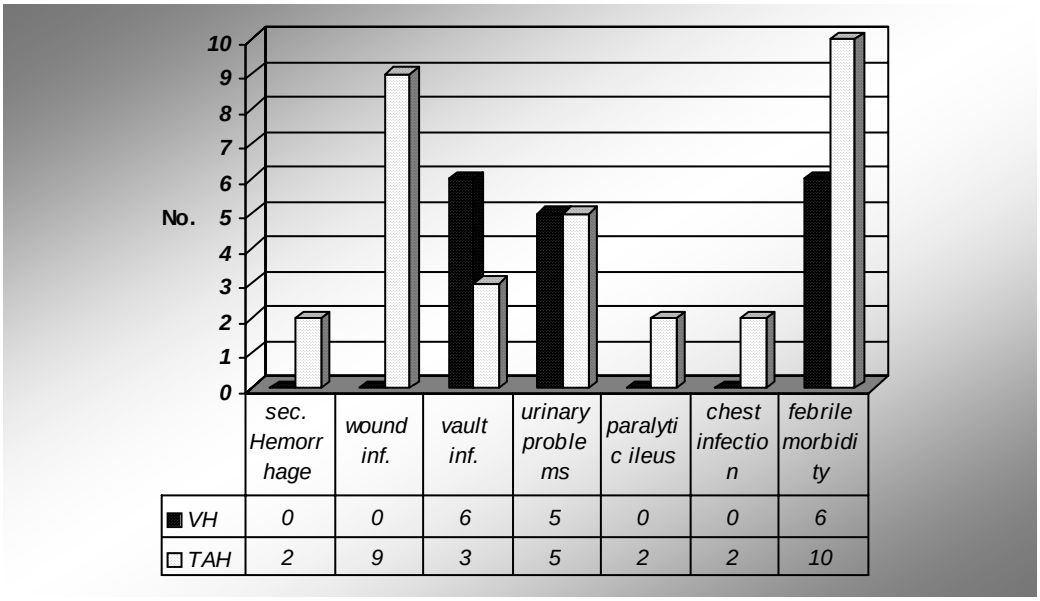

Fig. 2: Postoperative complications

Table-3: Complications in follow up

	Vaginal Hysterectomy		**Abdominal Hysterectomy**	
	2nd Week	**6th Week**	**2nd Week**	**6th Week**
Vaginal discharge	3 (6.0%)	1 (2.0%)	2 (4%)	1 (2.%%)
Wound infection	0.0%	0.0%	2 (4.0%)	0.0%
Febrile morbidity	2 (4.0%)	1 (2.0%)	2 (4.0%)	1 (2.0%)
Urinary tract infection	3 (6.0%)	0.0%	3 (6.0%)	1 (2.0%)
Rehospitalization	0.0%	0.0%	2 (4.0%)	0.0%
Total	**8 (16.0%)**	**2 (4.0%)**	**11 (22.0%)**	**3 (6.0%)**

2nd Week TAH vs. P = 0.447

6th Week TAH vs. P = 0.648