

Original Article

Comparison of abdominal hysterectomy with vaginal hysterectomy for large size uterine leiomyoma

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To Compare the outcome of vaginal and abdominal hysterectomy for large sized uteri with leiomyomas in terms of operative duration, intra-operative and postoperative complications. The study includes 200 cases of hysterectomies performed for uterine leiomyomas of more than 12 week size in our college from January 2007 to December 2010. All other indications of hysterectomy and hysterectomy for leiomyoma less than 10 week size are excluded from the study. Consecutive 100 cases of vaginal hysterectomy (study) were compared with 100 cases of abdominal hysterectomy (control). Detailed history taking and examination done. Routine investigations for Hysterectomy including ultrasound are done. Hysterectomy is done routine clamp, cut and ligate method. Morecelation in vaginal group is done by bisection, coring or piecemeal removal. The average operative time was 76 min in study group compared to 98 minutes in control group ($P < 0.001$). Blood loss was on a higher side (Hb deficit-1.4 gm/dl) in control group compared to 0.9 gm/dl in study group ($P < 0.001$). Lower postop analgesia was required for a maximum of 4 days in study group group leading to a hospital stay of 3 days compared to 10 days in control group ($P < 0.001$). A better postoperative quality of life in terms of decreased duration of post operative analgesia, less wound infections were found in the study group when compared to control group. Intra operative blood loss was also found to be significantly less in vaginal hysterectomy.

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Key words : Hysterctomy, large sized uteri, leiomyomas.

Hysterectomy is one of the most frequently performed major surgical procedures and therefore its consequences concern a large number of women. According to national hospital discharge data, 67.9% of hysterectomies were performed abdominally, 21.7% vaginally and 10.4% of vaginal hysterectomies were accompanied by laparoscopy between 2000 and 2004¹. Currently in India, abdominal hysterectomy exceeds vaginal hysterectomy by at least 3:1 ratio for treatment of benign disease, where the vaginal route is mainly restricted to the treatment of prolapse.

J Chassar D Moir has rightly said "If you are going to have your tonsils removed would you prefer they be taken out through your throat or through an incision on the side of your neck?" Hence a natural orifice surgery like vaginal hysterectomy should definitely be the preferred procedure over abdominal hysterectomy.

The abdominal technique is very often applied in difficult circumstances or when complications are expected. Given these circumstances the complication rate compares very favorably with other techniques, however time required for healing is much longer. Vaginal hysterectomy was shown

to be superior to LAVH and some types of laparoscopic surgery (sufficient data was not available for all types of laparoscopic surgery), causing fewer short- and long-term complications, more favorable effect on sexual experience with shorter recovery times and fewer costs^{2,3}.

A recent Cochrane review recommends vaginal hysterectomy over other variants where possible⁴. Large multifibroid uteri and subtotal hysterectomies did previously require abdominal incision but with the use of in situ morcellation they can be sometimes also performed using laparoscopic or vaginal techniques⁵. The ACOG Committee concluded that vaginal hysterectomy is associated with better outcome and fewer complications than laparoscopic or abdominal hysterectomy⁶.

This study was done to compare various parameters of both vaginal and abdominal hysterectomy procedure leaving the ideal choice of procedure to the operating surgeon.

MATERIALS AND METHODS

Ours is a comparative study conducted in Department of Obstetrics & Gynaecology, KVGMC hospital evaluating vaginal hysterectomy (Study group) with abdominal hysterectomy (Control group) for all hysterectomies performed for uterine fibroids. This study includes 200 cases of hysterectomies performed for large sized uteri with leiomyomas in our medical college from January 2007 to December 2010 by the same group of gynaecologists.

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Need for study — Limited amount of data regarding the procedure of choice is available for large leiomyomas in India, with majority of cases landing in the abdominal hysterectomy group. Hence there is a need to highlight that enlarged uteri with leiomyoma is no longer a limitation for vaginal routes shown by our study.

Hundred cases of large sized uterine leiomyoma operated by vaginal hysterectomy (Study group) were compared with 100 cases of abdominal hysterectomy (Control group). For large sized uteri bisection of uterus, coring or enucleation of fibroids was done for size reduction in study group. Inclusion criteria included all uterine fibroids larger than 12 week size and their weight were varying from 300gm to 1600gm weighed after surgery. Exclusion criteria included all other indications of hysterectomy and uterine fibroids smaller than 10 week size.

The parameters evaluated were patient’s age, parity, uterine height and weight, operative time, blood loss, post-operative pain, starting of oral feeds, surgical complications and length of admission after the surgery. The preoperative workup included a detailed case history; a thorough gynaecological examination. Apart from routine investigations ultrasonography abdomen/pelvis was carried out in all cases. Physician’s opinion on patients for fitness for surgery was taken as a standard protocol. Standard operative techniques were followed by the same set of gynaecologists. The procedures were performed under spinal anaesthesia. The procedure was timed from the time of incision to the last suture applied. Pre-, intra- and post-operative evaluations were done. Patients were followed up to 3-6 month post operatively and whenever any untoward complications occurred were recorded. The analysis was performed by using SPSS version 16. Frequency and percentage were computed for presentation of all categorical variables. The statistical test of significance used were Mann Whitney test for parity and post operative stay and ‘t’ test for other parameters.

OBSERVATION

Fig 1 shows the changing trend of the route of surgery being chosen with vaginal hysterectomy being performed later for larger sized fibroids. Vaginal approach in our study showed lot of added benefits. Table 1 shows the intra operative time was significantly reduced in vaginal route across all uterine weight bands (P<0.0001). There was significant difference in Hb deficit – vaginal route 0.9 gm /dl compared to 1.4 gm/dl in abdominal route (P<0.001). There was significant reduction in post operative analgesia (maximum of 4 days) in vaginal group compared to abdominal group which was about ten days (P<0.0001). Oral feeds were started as early as eight hours in vaginal group while a minimum of 23.4 hours NBM status was required in abdominal route (P<0.001). Size of the uterus

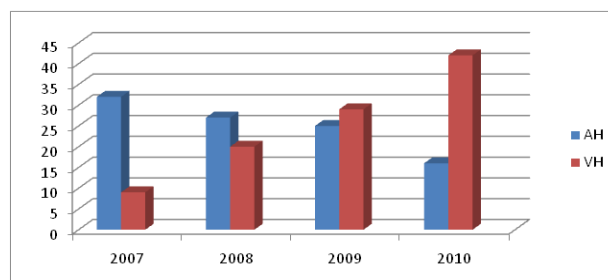


Fig 1 — Cases operated yearly

weight and parity of the patient were not statistically significant (P>0.05). Table 2 shows that wound infections were lesser in vaginal hysterectomy. The other complications were statistically insignificant. Table 3 shows most of the patients were discharged within three days in vaginal hysterectomy group where in abdominal hysterectomy most patients discharged between day 4 and 6.

DISCUSSION

Hysterectomy is the common major gynaecological surgery performed all over the world after caesarean section. In the era of cosmetic surgeries where does a big scar on abdomen stand? Our study shows (Fig 1) changing pattern of more vaginal hysterectomies being performed compared to abdominal hysterectomy.

The average operating time for vaginal approach was 87 min compared to 102 min for abdominal route (Table 1), consistent with various other studies done worldwide. In current study the average uterus size removed vaginally was 900 gm while the maximum size removed was 1600 gm. Uterus as big as 20weeks pregnancy size have been removed vaginally with out any added morbidity⁷. In our study uterus as big as 26 weeks size have been removed without any untoward complications.

Table 1 — Comparison of parameters

Factors	Abdominal Hysterectomy	Vaginal Hysterectomy	P value
Weight (Kg)	52 kg (avg)	57 kg (avg)	>0.05
Parity	3	4	>0.05
Mean operating time (Min)	102min (Max-2.45 hrs)	87 min (Max-2.40 hrs)	<0.001
Weight of the uterus vaginal group (min)	operating time in group (min)	operating time in abdominal	P value
300-500g	56 (n=22)	68(n=24)	<0.05
501-700g	78(n=54)	98(n=51)	<0.05
701-900g	94 (n=15)	110(n=14)	<0.05
901-1600g	122 (n=9)	132(n=11)	<0.05
Mean size of uterus	1050 gm	900 gm	>0.05
	Max-1900 gm	Max-1600 gm	
Hb. Deficit (mean) Postoperative	1.4±0.541 gm/dl	0.9±0.383gm/dl	<0.001
Analgesia (mean)	5.43±0.573(days)	2.70±0.482(days)	<0.0001
Mean NBM status upto	23.44±1.313(hrs)	8.7±1.243(hrs)	<0.001

According to systematic evidence review by Johnson N women who had vaginal hysterectomies had fewer infection and febrile episodes after surgery compared to those who had abdominal hysterectomies Dicker and his associates in their study found that abdominal hysterectomies had 1.7 times more risk of complications than vaginal hysterectomies⁸.

Current study was consistent with the above studies and the postoperative complications were significantly higher in abdominal route (Table 2). Wound infection in postoperative patients formed the major bulk of complications in abdominal group. Less post operative complications in vaginal group reflected in less morbidity (wound infections), speedy recovery & early discharges from hospital with majority of patients being discharged within 72 hrs. In a case of abdominal hysterectomy for 20 weeks size uterus with fibroid extending into right broad ligament we encountered an ureteric injury while clamping the uterine pedicle. Bladder injury in both abdominal and vaginal hysterectomy were faced as there were dense adhesions present due to prior two LSCS in the patients. Patients who underwent vaginal hysterectomy were discharged earlier (Table 3)

The limitations of this study are that these surgeries were done by experienced surgeons, hence there is a need to know about the difficulties faced by surgeons who are still in their learning curve. We also feel that the study should be done on a larger sample size before applying it to general population. The follow up period was limited to 3 to 6 months due to factors like poor patient compliance etc. Hence remote complications (eg- dyspareunia) were not recorded.

Gynaecologists have considered vaginal approach as

Table 2 — Comparison of complications

Complications	Abdominal Hysterectomy(n=100)	Vaginal Hysterectomy(n=100)	P value
Wound infection	10	4	P<0.0001
Bladder Injury	1	1	P>0.05
Ureteric Injury	1	Nil	P>0.05
Pelvic Haematoma	1	2	P>0.05
UTI	10	11	P>0.05

Table 3 — Post operative hospital stay (P<0.001)

Day of discharge	Abdominal hysterectomy (n=100)	Vaginal Hysterectomy (n=100)
DAY 0-3	Nil	80
DAY 4-6	63	15
DAY 7-9	32	2
>Day 10	5	3

A comparative study of various other studies done worldwide

Name of Study	No of Cases AH/VH	Operative time Min AH/VH	Haemoglobin Defecit (gm/dl) AH/VH	Major Complications % AH/VH	% of pts discharged by 6th postoperative day AH/VH
Current study	100 / 100	102 / 87	1.4 / 0.9	5 / 3	63 / 96
Rubin <i>et al</i>	150 / 150	95 / 80	1.1 / 0.7	8 / 2	74 / 90
Nasira <i>et al</i>	40 / 40	102 / 88	1.6 / 1.2	10 / 6	60 / 88
Kohen <i>et al</i>	70 / 130	91 / 70	1.7 / 0.7	9 / 3	65 / 92
Ikram <i>et al</i>	60 / 140	105 / 84	1.6 / 0.9	7 / 4	70 / 94
Rumina <i>et al</i>	33 / 74	97 / 86	0.9 / 0.7	10 / 6	62 / 91
Kevin <i>et al</i>	73 / 127	99 / 90	1.3 / 1.1	6 / 4	70 / 93

Our studies were consistent with the results of various other studies done world wide.

a route of choice for performing hysterectomy in patients with previous caesarean section⁹. However few conditions where it is not safe are patients with adnexal pathology, restricted uterine mobility limited vaginal space, previous vesico vaginal repair and invasive cancer of the cervix¹⁰.

CONCLUSION

A better postoperative quality of life in terms of decreased post operative pain, less wound infections were found in the study group when compared to control group. Time taken for vaginal hysterectomy was less than abdominal hysterectomy across all uterine weight bands. Intra operative blood loss was also found to be significantly less in vaginal hysterectomy. Women with vaginal hysterectomies returned to their normal activities quicker than those who had the abdominal surgery. Less duration of hospital stay in study group also could mean significant cost benefits. These results should make vaginal hysterectomy as a valid alternative to abdominal hysterectomy for large sized uteri.

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