Comparative Study Of Abdominal Versus Vaginal Hysterectomy In Non- Descent Cases
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Citation

Abstract
Hysterectomy, abdominal or vaginal, total or subtotal laparoscopic assisted vaginal hysterectomy is by far the most frequently performed elective major operation in Gynaecology. It is said that the two are not competitive procedures but each has its own place in the operative armamentarium of the gynaecologist. This study was done with the Objective to study the comparative risks of complications of abdominal and vaginal hysterectomies during intra-operative and post-operative period thereby improve the proportion of hysterectomies done vaginally. Method: A total of 50 patients in the study were divided into two groups. 25 cases in each group each designated as group-A and group-B underwent abdominal hysterectomy and vaginal hysterectomy respectively for non-prolapsed cases with good uterine mobility and uterine size less than 16 week. Results: Intra-operative blood loss, mean operating time was more in group A than in group B (500±250, 316±238) and (101±27.1 min, 65±26.2) respectively. Only one case of bladder injury was observed in group A, (which was a case of previous caesarean section) and none in vaginal route. Only one patient underwent re-laparotomy for internal bleeding via abdominal route. Postoperative fever (28% & 16%), UTI (20% & 15%) and abdominal wound infection (8%, 0%) was more common in Group A as compared to Group B. Vaginal cellulitis (44% & 24%) and vault granuloma (20% & 0%) was found frequently in vaginal than in abdominal route. Conclusion: From the study results it can be concluded that patients requiring hysterectomy for benign non prolapse cases be offered the option of vaginal route which is less invasive, minimal or no complications, more economical and effective. In our centre, it is likely to replace abdominal hysterectomy as the operation of choice.

INTRODUCTION
Hysterectomy, abdominal or vaginal, total or subtotal laparoscopic assisted vaginal hysterectomy is by far the most frequently performed elective major operation in Gynaecology. It is said that the two are not competitive procedures but each has its own place in the operative armamentarium of the gynaecologist. As compared to three routes, vaginal hysterectomy should be the route of choice and laparoscopic assisted vaginal hysterectomy (LAVH) as an alternative because of long operating time, expensive without added benefits in terms of postoperative complications compared to vaginal hysterectomy.

Hysterectomy by vaginal route must be practiced in all cases where there is an indication for hysterectomy in benign non prolapse cases. The vaginal route has mainly been restricted to the treatment of uterine prolapse, the reverse should be the case because fewer post-operative complications, no abdominal incision hence cosmetically approved by patient which allows earlier recovery and return to work. Hence it is best interest of the patient if vaginal route is mastered. To maximize the proportion of hysterectomies performed vaginally, gynecologists need to be familiar with surgical techniques for dealing with non-prolapsed uterus.

METHODS AND MATERIALS
The study was carried out at tertiary level teaching hospital. A total of 50 Cases admitted to gynecological ward requiring hysterectomy for benign diseases were selected randomly and divided into two groups according to the type of surgery. In group A, 25 patients were subjected to total abdominal hysterectomy and in Group B another 25 patients subjected to vaginal hysterectomy. The study was carried out over a two year period from Dec 2002-Dec 2004.

A careful history from the patient was elicited and a thorough examination was conducted. This included complete physical as well as pelvic examination. Inclusion criteria were uterus without descent, with good mobility and size not more than 16 weeks size. Uterine prolapse, associated adnexal pathology, history of 2 or more serial
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abdominal surgeries or pelvic organ surgeries was excluded from the study.

Routine investigations including complete haemogram, urine analysis, blood grouping and Rh-typing, blood sugar, serum creatinine, blood urea, cervical swab for culture and sensitivity, Pap smear, ECG, Chest X-ray/ USG Abdomen and Pelvis, HIV, HBSAg was done.

A written informed consent was taken from all patients after explaining the procedure. Every patient was completely evaluated by an anesthetist before deciding the type of anesthesia. Spinal anesthesia was used in most of our patients. Operating time for Abdominal Hysterectomy was calculated from the start of skin incision to the closure of the skin incision and for vaginal hysterectomy from the start of incision at cervico-vaginal junction to the placement of vaginal pack.

Blood loss was calculated by noting the number of Mops used during surgery. Measurement of Mops used in present study was 34 cm x 24 cm. On an average ¼ soaked Mops contained 20 ml, ½ soaked 40 ml and fully soaked 100 ml. This is rough estimation of blood loss. Intra-operative complications like injury to the bladder/bowel/ ureter. Hemorrhage was noted. Post operatively, all patients were meticulously followed. On 3rd post-operative day, Routine hemoglobin estimation and urine examination was done and vaginal swab taken on 4th postoperative day and subjected for culture and sensitivity. In case of abdominal wound infection, culture and sensitivity was done to know the type of organisms. Post-operative complications like fever, urinary tract infection, vaginal cuff cellulitis, abdominal wound infection were noted.

Statistical analysis was done using SPSS software Version 15. Mean and standard deviation was calculated. Test of significance was done by using unpaired' test. Level of significance noted at 5% and 1%. All the patients were advised to attend the outpatient department two weeks after discharge from hospital to note their well-being or any late complications like vaginal discharge, urinary/bowel symptom

RESULT

Majority of the patients were in the range of 40-49 years and were equally distributed age wise in both the groups. (Table 1)

Mean age of the patient in Group A is 44.4±8.3 and in Group B is 44.2±0.3, which is not statistically significant (P>0.05).Parity wise distribution is equal in both groups with mean parity in Group A is 3.6 and in Group B 3.8 (Table 2).

Commonest indication for abdominal hysterectomy is fibroid (32%) and chronic cervicitis (32%), whereas for vaginal hysterectomy it is DUB (48%), fibroid (32%) and chronic cervicitis (12%). Other indications are ovarian pathology, cervical dysplasia, adenomyosis and cervical polyp (Table 3).
The size of the uterus in Group A (40%) was between 12-14 weeks size and in Group B (52%) 6-8 weeks in vaginal hysterectomy (Table 4). The average blood loss in abdominal group was 500±250 and 316±238 in vaginal group. The difference in amount of blood loss was significant statistically (Table 5).

In majority of cases (72%) the maximum operating time was between 60-120min in Group A where as in Group B (68%)
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the time taken was 60min (Table 6). Mean time taken for abdominal hysterectomy was 101±27.1 whereas vaginal hysterectomy was 65±26.2 which was statistically highly significant.

**Figure 6**
Table 6: Operating time for Surgery

<table>
<thead>
<tr>
<th>Time in min.</th>
<th>Abdominal (%)</th>
<th>Vaginal (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 – 60</td>
<td>3 (12%)</td>
<td>17 (69%)</td>
<td>20</td>
</tr>
<tr>
<td>60 – 120</td>
<td>18 (73%)</td>
<td>8 (32%)</td>
<td>26</td>
</tr>
<tr>
<td>120 – 180</td>
<td>4 (16%)</td>
<td>--</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>

Mean time taken for abdominal hysterectomy was 101±27.1 whereas vaginal hysterectomy was 65±26.2 which was statistically highly significant.

**Figure 7**
Table 7: Post-operative Complications

<table>
<thead>
<tr>
<th>Complications</th>
<th>Abdominal (%)</th>
<th>Vaginal (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>7 (28%)</td>
<td>4 (16%)</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>5 (20%)</td>
<td>3 (12%)</td>
</tr>
<tr>
<td>Vaginal cuff cellulitis</td>
<td>6 (24%)</td>
<td>11 (44%)</td>
</tr>
<tr>
<td>Abdominal wound infection</td>
<td>3 (12%)</td>
<td>--</td>
</tr>
<tr>
<td>Relaparotomy</td>
<td>1 (4%)</td>
<td>--</td>
</tr>
<tr>
<td>Secondary suturing</td>
<td>2 (8%)</td>
<td>--</td>
</tr>
<tr>
<td>Vaginal swab positive</td>
<td>7 (28%)</td>
<td>10 (40%)</td>
</tr>
<tr>
<td>No complications</td>
<td>9 (36%)</td>
<td>17 (68%)</td>
</tr>
</tbody>
</table>

In our study, post-operative complications is more in Group A than in Group B. Fever (28%), UTI (20%) is more common in Group A than in Group B (16%, 15%). Vaginal cuff cellulitis and vault granuloma is frequently seen in Group B (44%, 20%) than in Group A (24%, 0%). Abdominal wound infection in 3 cases (12%). Re-laparotomy was done in one case of abdominal hysterectomy due to intra-peritoneal bleeding. Secondary suturing is performed in 2 cases, one case was with severe anemia and other case with relaparotomy with severe anemia, vaginal swab positive (28% & 40%) in Group A & B respectively (Table 7). In Group A 9 patients (36%) did not have any complaints postoperatively as against 17 (68%) patients in Group B (Table 7,8).

**Figure 8**
Table 8: Late Complications

<table>
<thead>
<tr>
<th>Complication</th>
<th>Abdominal (%)</th>
<th>Vaginal (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge</td>
<td>2 (8%)</td>
<td>6 (24%)</td>
</tr>
<tr>
<td>Vault Granuloma</td>
<td>--</td>
<td>5 (20%)</td>
</tr>
</tbody>
</table>

Post-operative hospital stay was maximum in Group-A 11.1 day (68%) as compared to Group-B 9.6 days (32%). Two patients in abdominal hysterectomy stayed for more than 30 days who underwent secondary suturing and re-laparotomy procedure (Table 9).
DISCUSSION

It is well known fact that 70-80% of hysterectomies done for benign conditions are through abdominal route. Vaginal hysterectomies are usually performed for prolapse cases. The reason behind this is inadequate technical skills, presence of uterine enlargement makes vaginal route difficult. But with newer techniques like bisection, morcellation and myomectomy it has become easy to perform vaginal hysterectomy even in enlarged uterus in benign cases.

In our study most of patients were in the age group of 40-49 years of age which was well compared with the study carried out by Tariq Miskry et al. Mean parity for vaginal hysterectomy and abdominal hysterectomy in our study was 3.8 and 3.6 respectively. Parity wise distribution of cases was similar to Nasira et al study.

INDICATIONS FOR HYSTERECTOMY

In this study, most common indication for abdominal hysterectomy is fibroid uterus (32%) followed by chronic cervicitis (32%) and DUB (20%). The commonest indication for vaginal hysterectomy in non-descent cases is DUB (48%) followed by fibroid (32%).

UTERINE SIZE IN GESTATIONAL WEEKS

The uterine size in gestational weeks is compared with both routes.
In the present study, mean blood loss for Abdominal Hysterectomy was 500 ml and that for VH was 316.4 ml. The present study was well correlated with the study conducted by Tariq Miskry.

**Figure 18**

Table 18: Operating Time

<table>
<thead>
<tr>
<th>Studies</th>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramesh Chandra &amp; Kusum Gupta (1996)</td>
<td>45.20</td>
<td>39.55</td>
</tr>
<tr>
<td>Kovac et al (2002)</td>
<td>118.00</td>
<td>94.00</td>
</tr>
<tr>
<td>Tariq Miskry &amp; A Magos (2003)</td>
<td>68.20</td>
<td>68.80</td>
</tr>
<tr>
<td>Present study (2004)</td>
<td>101.00</td>
<td>65.00</td>
</tr>
</tbody>
</table>

The mean operating time for abdominal hysterectomy was 101 minute and that for vaginal hysterectomy was 65 minutes. The present study was correlated with the study of Kovac et al.

**Figure 19**

Table 19: Operating time for non-descent vaginal hysterectomy

<table>
<thead>
<tr>
<th>Author</th>
<th>Mean time (min)</th>
<th>Vaginal</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam Magos (1996)</td>
<td>84.30</td>
<td>30-150</td>
<td></td>
</tr>
<tr>
<td>Octacillio Figueiredo (1999)</td>
<td>51.00</td>
<td>20-130</td>
<td></td>
</tr>
<tr>
<td>Pradeep Garg (2003)</td>
<td>41.20</td>
<td>25-63</td>
<td></td>
</tr>
<tr>
<td>Present study (2004)</td>
<td>65</td>
<td>30-120</td>
<td></td>
</tr>
</tbody>
</table>

In the present study, the mean operating time for vaginal hysterectomy was 65 minutes. Range between 30-120. The present study is well correlated with Octacillio Figueiredo study.
In our study women undergoing abdominal hysterectomy had more febrile morbidity (28%) than vaginal hysterectomy (16%); urinary tract infection is more in abdominal (20%) group well correlated with Kovac et al study than vaginal (12%).

Post-operative hospital stay in the present study was 11.1 days (7-30) in abdominal group 9.6 days (6-13) in vaginal group.

Post-operative stay in the present study was more than other studies because most of our patients are from rural areas and from far places, who cannot come back for follow-up study.

Our study shows that in patients without genital tract prolapse, vaginal hysterectomy is associated with significantly shorter hospitalization than abdominal hysterectomy. It is not surprising that patients reported less discomfort and faster recovery after vaginal hysterectomy in the immediate post-operative period. Abdominal hysterectomy maybe associated with a higher risk of post-operative fever, while bleeding may be more frequent with vaginal surgery. These findings support the view that vaginal hysterectomy should not be restricted to women with genital tract prolapsed alone.

CONCLUSION

All the patients without uterine prolapse submitted to vaginal hysterectomy for the treatment of benign disease had some advantage in relation to abdominal hysterectomy. Less intra-operative blood loss, less febrile morbidity, low postoperative complications, faster recovery, less hospital stay demonstrate that the vaginal route should be the choice of operation for non-descent cases. Vaginal hysterectomy is least invasive route, safe and effective procedure for benign non-prolapsed cases. Besides the faster recovery and lower incidence of bleeding and other complications, vaginal route lowers cost for Health System. It is undeniable that the simple vaginal hysterectomy is less invasive than laparoscopy.

References
Author Information

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