INTRODUCTION:
1) Hysterectomy a most common surgery performed for gynaecological disorder next to caesarean section. Hysterectomy rates vary form 1.2 – 4.8/1000 women.

2) The methods of hysterectomy are
   - VH - Vaginal Hysterectomy
   - AH - Abdominal Hysterectomy
   - LAVH - Laparoscopic Assisted Vaginal Hysterectomy

   vaginal route being the natural one, continues to be next preferred route for removal of uterus.

3) Vaginal Hysterectomy is associated with
   - Less Fewer morbidities
   - Less hospital stay
   - Better patient satisfaction

4) Therefore this method is not restricted to uterovaginal prolapse but can be done for other indications
   - Large uterine size
   - Nulliparity
   - Previous pelvic surgery
   - LSCS
   - Endometriosis
   - Ovarian Mass

5) With the introduction of LAVH in 1990, studies says that LAVH superior in comparison to Abdominal Hysterectomy / Vaginal Hysterectomy, but with similar complications to Abdominal Hysterectomy & Vaginal Hysterectomy.

6) However LAVH has certain disadvantages
   - Higher cost
   - Expensive Instruments
   - Longer learning curve
   - Morbidities depending on surgeon experience
   - But Post Operative recovery is similar to AH.

7) Vaginal removal of uterus in the absence of uterine descent commonly named as NDVH is popular for most benign conditions as uterus can be safely removed intact per vaginum.

MATERIALS & METHODS

1) Methods:
   The scoring system for assessment for successful NDVH based on Kovacs guidelines to determine the route of hysterectomy.

2) Materials and Methods:
   This is prospective study conducted in govt Kasuturba Gandhi Hospital, MMC. A detailed risk analysis for each of these cases was done. Based on this and Kovacs guidelines on determining routes of hysterectomy parameters were selected for a scoring system to predict the chances of successful vaginal routes for hysterectomy.

RESULTS: In our Study of 100 cases 98 cases within safe score 7-11, percentage is 98%, 2 cases in upper limit of moderate risk of conversion of score 12-16, no cases is high risk of score >16.

CONCLUSION: The study concluded that patient requiring hysterectomy for benign lesions having moderate size uterus can be offered vaginal route of surgery. Vaginal approach is best approach for gynaecological surgeon than abdominal approach as VH done through a nature orifice.

KEYWORDS: NDVH (non- descent vaginal hysterectomy), Uterus, Hysterectomy, AH (Abdominal hysterectomy), VH (Vaginal Hysterectomy), LAVH (Laparoscopic assisted vaginal hysterectomy)
3) Pelvic adhesions:
- Puckering of the post vaginal wall at the cervicovaginal junctions.
- Immobility of uterus
- Bladder adhesion due to repeated LSCS

Parameters: Score of 1 to 6 for minimum to maximum risk for conversion.

<table>
<thead>
<tr>
<th>Mobility of Uterus</th>
<th>Mobile -1</th>
<th>Restricted -6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrow</td>
<td>More than 2 finger -1</td>
<td>Less than 2 finger -6</td>
</tr>
<tr>
<td>Uterine size</td>
<td>Less than 12 weeks -1</td>
<td>12-16w-2 16-18w-3 Narrow uterus -6</td>
</tr>
<tr>
<td>Endometriosis</td>
<td>No-1</td>
<td>Mild-2</td>
</tr>
<tr>
<td>Removal of adnexa/mass</td>
<td>No-1</td>
<td>Yes-2</td>
</tr>
<tr>
<td>Post LSCS</td>
<td>None-1</td>
<td>1 PCS -2</td>
</tr>
<tr>
<td>Puckering of POD</td>
<td>Absent -1</td>
<td>Present -6</td>
</tr>
</tbody>
</table>

Min Score -7 Safe score 7/11 Mod risk on conversion 1-12 High risk more than 16

Prerequisites for NDVH & Uterine debunking if required
- No contraindications for vaginal route except for size
- Detailed preoperative counselling with informed content
- Consent for switch over the laparoscopic assistance or laparotomy if required
- Favourable clinical and ultrasound finding
- Absence of endometrial pathology (malignancy)
- Both uterine arteries ligated before debunking.

RESULTS AND STATISTICS
The scoring system was applied for pre surgical assessment of women undergoing hysterectomy for benign conditions from Oct 2015 – Sep (2016) in KGH 100 cases was studied -> scoring system was applied.

Mobility of Uterus
- Mobility of uterus is an important parameter in the scoring system.
- If uterus is mobile – 1
- If uterus mobility is Restricted -6.
- In our study – All 100 cases has mobility – score – 1.

Mobility of uterus

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>100</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Vaginal breadth at apex
- If vagina admits >2 finger – score -1
- If vagina admit<2 finger – score – 6
- In our study – All 100 cases shows that vaginal breadth at apex >2 fingers – score – 1.

Vaginal breadth at apex

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
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<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
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</tr>
</tbody>
</table>

Uterine size

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative percent</th>
</tr>
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<tbody>
<tr>
<td>Valid</td>
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</table>

We did not handle 16-18 Weeks and 18 Weeks above cases. When the uterine size more than >18 weeks better go for AH.

For Uterine size 12-16 weeks, several Debunking techniques followed.

All cases are successful without any intra operative complication and conversion rate to AH.

<table>
<thead>
<tr>
<th>Uterine Size</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>1</td>
<td>100</td>
<td>100.0</td>
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</tbody>
</table>

Endometriosis
- Distorted Pelvic anatomy and
- Adhesions are often associated with Endometriosis.

Scoring of 1 – for Absent Endometriosis
Scoring of 2 – for mild Endometriosis
Scoring of 6 – for moderate Endometriosis
In our study is 100 cases, there was no Endometriosis and score was 1.

<table>
<thead>
<tr>
<th>Endometriosis</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>1</td>
<td>100</td>
<td>100.0</td>
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</tbody>
</table>

Removal of adnexal mass
In scoring system, if no Removal of adnexa – score of 1
Removal of adnexa attempted – score of 2
If size of adnexal mass < 6cm – score of 3
If size of adnexal mass > 6cm – score of 6.

In our study in 100 cases, Removal of adnexa not done and score of 1 is given.

<table>
<thead>
<tr>
<th>Removal of adnexa</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>1</td>
<td>100</td>
<td>100.0</td>
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</tbody>
</table>

Post LSCS
Post LSCS are associated with pelvic as well as bladder adhesion this increases the chance of bladder tear and this risk increases with number of repeat section.

If NoLSCS done → score of 1
1 LSCS done → score of 2
2 LSCS done → score of 6

In our study, in 100 cases, AUB with previous 2 LSCS coal 3 cases – score of 6.

<table>
<thead>
<tr>
<th>Post LSCS</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>1</td>
<td>91</td>
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<td>91.0</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>7.0</td>
<td>7.0</td>
<td>98.0</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>2.0</td>
<td>2.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
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<td></td>
</tr>
</tbody>
</table>

Puckering POD
If no puckering, score of 1
If puckering is present, score of 6.

Pelvic adhesions – may obliterate the culde sac, and this cause puckering or dimpling of POD vaginal vault at cervico vaginal
If such patients are encountered – opening of POD is very difficult and likely have complications if subjected to NDVH. So score of 1.

In our study of 100 cases – No puckering of POD Encountered as score of 1.

Thus minimum score was - 7
Safe score - 7-11
Moderate Risk of Conversion - 12-16
High Risk - >16

In our study 100 cases
98 cases within safe score -> 7-11
2 cases in upper limit of moderate risk of conversion -> 12.
No cases is high risk > 16.

<table>
<thead>
<tr>
<th>Total score</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
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<td>69.0</td>
<td>69.0</td>
<td>69.0</td>
</tr>
<tr>
<td>8</td>
<td>29</td>
<td>29.0</td>
<td>29.0</td>
<td>98.0</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>2.0</td>
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<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100.0</td>
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</tr>
</tbody>
</table>

But VH is associated with
• Few morbidities
• Reduced stay in hospital
• Good patient satisfaction
• Rapid Recovery
• Early discharge

DISCUSSION
As Cochrane review concluded that VH is far superior than AH/LAVH.

When NDVH not possible, LAVH has advantage over AH. Complications and conversion rate in our study was none when compared to other studies, as were they need for conversion.

In study by Paparella et al, used laparoscopy prior to conversion to abdominal route. They concluded reduction in conversion rate is only1% with LAVH.

Summary
Hysterectomy is common of NDVH is superior than AH and LAVH.

Through LAVH is safe with similar complications rates as AH and VH.

Because of few limitation like
• Costly procedure
• Expensive
• Liger learning curve
• Depends on surgeon’s expertise

However POD operative recovery is similar.

Buy using simple scoring system Kovacs guidelines per surgically and this helped as to classify women undergoing hysterectomy for benign conditions into:

Low ≤ 11
Intermediate
High Risk ≥ 17

Low risk group can undergo safely NDVH, High risk group should undergo only AH.
• By applying scoring system which is
• Easy
• Simple
• Did not involve any cost to patient
• Reproducible and
• Helps to classify women into low-intermediate-high risk groups
CONCLUSION

Vaginal approach is best approach for gynaecological surgeon than abdominal approach as VH done through a natural orifice. Where as AH done through surgically created approach. By Kovac guidelines, a simple scoring system helped better assessment of women pre-surgically before undergoing hysterectomy for benign conditions and for deciding better feasibility to perform NDVH.

Complication and conversion rates has been decreased by to this scoring system.

References