Vaginal Hysterectomy Surgeries

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- CREST Study
  - 1978 – 1981 Published 1982
  - 9 institutions
  - Prospective study 1,851 hysterectomies

- 1,283 Abdominal Hysterectomies
- 568 Vaginal Hysterectomies
- 6 week follow-up
- No cancer cases
- No ER cases
- Ages 15-44

Definition of Febrile Morbidity

“Oral temperature of 100.4°F/38°C or greater on any two post operative days, excluding the first 24 hours after operation”
Unintended Major Surgical Procedure:

- Intra Operative
- Repair bladder conversion to Abdominal Hysterectomy
- Post Operative
- To repair ureter, bowel, bladder
- To control bleeding, evacuate hematoma

Breakdown of Complications:

<table>
<thead>
<tr>
<th>Complication</th>
<th>Regular</th>
<th>Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder injury</td>
<td>3</td>
<td>11.6%</td>
</tr>
<tr>
<td>Hernia Repair</td>
<td>1</td>
<td></td>
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<tr>
<td>Drainage of abscess via scope</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Schindlbeck 2008

- 43 TLH - 11.6% Complication Rate
- 3 Bladder injury
- 1 Hernia Repair
- 1 Drainage of abscess via scope

87 Vaginal Hysterectomies

Complication Rate 2.3 or 4.6%
- 1 re-operation for hematoma
- 1 acute bleeding episode
- 2 rectal injuries during prolapse repair
103 Abdominal Hysterectomies

Complication Rate 2.0%
1 bleed with laparotomy
1 vesicovaginal fistula

VALUE Trial

- Prospective Study
- 37,512 Hysterectomies 1994/95
- 421 Hospitals
- Database Collections
- 67% AH, 30% VH, 3% LAVH

Severe Complications

- Death
- DVT/PE
- MI
- Renal Failure
- CVA
- Septicemia
- Necrotizing Fasciitis

Severe Complications (continued)

- Hernias
- Fistula
- Ureteric Obstruction
- Visceral damage
Complication Rates:
- AH = 3.6%
- VH = 3.1%
- LAVH = 6.1%

Conclusion:
The presence of fibroids increases risk particularly in LAVH.

Garry 2004
EVALUATE Trial
- 30 Centers in UK/South Africa
- Surgeon decided whether patient was an abdominal hysterectomy case or a vaginal hysterectomy case.
- Patients were then randomized between AH vs. ALH or VH vs. VLH

Exclusion Criteria
The following groups of conditions present specific problems and were excluded from the trial:
- Confirmed or suspected malignant disease of any part of the genital tract
- second or third degree uterine prolapse
- Uterine mass greater than the size of a 12-week pregnancy
Exclusion Criteria (continued)

- Associated medical illness precluding laparoscopic surgery
- Bladder or other pelvic support surgery required
- Patients deemed unsuitable for randomization by the consultant
- Patients refusing consent for the trial.

Major complications were defined as:

1. Major hemorrhage (requiring transfusion)
2. Hematoma (requiring transfusion/surgical drainage)
3. Bowel injury
4. Ureteric injury
5. Bladder injury
6. Pulmonary embolus
7. Major anesthesia problems (defined by independent clinical reviews)

Major complications were defined as: (continued)

8. Wound dehiscence
9. Unintended laparotomy, defined as either:
   a. intra-operative conversion (failure of the planned procedure)
   b. return to theatre:
      (i) prior to discharge from hospital
      (ii) prior to 6-week postoperative follow-up visit.

Minor Complications were defined as:

- Hemorrhage (not requiring transfusion)
- Infection: chest, urinary, wound, pelvic, other/or pyrexia 38°C on any single occasion
- Hematoma (spontaneous drainage)
- Deep vein thrombosis (DVT)
- Cervical stump problems
- Minor anesthesia problems (defined by independent clinical review)
- Other minor complication requiring treatment.
Questions asked of Participants

**Abdominal hysterectomy trial (LH versus AH)**

- LH is associated with a higher rate of major complications than AH.
- LH takes longer to perform than AH.
- LH is associated with less operative pain than AH.
- LH is associated with shorter hospital stay than AH.

Comparison of Costs

- LH is associated with a better QoL 6 weeks and 4 months after surgery than AH.
- LH is associated with a better BIS at 6 weeks and 4 months after surgery than AH.
- LH is associated with a more rapid return of satisfactory sexual activity than AH.
- LH has higher mean costs than AH.
- LH is slightly more effective (in terms of mean QALYs) than AH.
- LH has an incremental cost per additional QALY of £26,571 relative to AH.
- If the NHS is willing to pay £30,000 for additional QALYs, the probability that LH is cost-effective is 56%.
Johnson Study

Meta-analysis of RCT
27 Trials
3,643 Patients

Return to Normal Activities

- Laparoscopic Hysterectomy = Vaginal Hysterectomy
- Both are better than Abdominal Hysterectomy

Complications:

- Increased urinary tract injuries for Laparoscopic Hysterectomies
- No difference with bleeding
- Ureteral injuries
  - 1/78 with Laparoscopic
  - 1/492 with Abdominal
  - 0 with Vaginal

Conclusions

Significantly speedier return to normal activities and other improved secondary outcomes (shorter duration of hospital stay and fewer unspecified infections or febrile episodes) suggest that vaginal hysterectomy is preferable to abdominal hysterectomy where possible. Where vaginal hysterectomy is not possible, laparoscopic hysterectomy is preferable to abdominal hysterectomy, although it brings a higher chance of bladder or ureter injury.
Thomson 1998

- 223 patients with vaginal hysterectomies
- 25% were diagnosed with hematomas
- Hematomas was diagnosed for any fluid collection >2 x 2 cm.

The Hematoma group had significant increase in:

- Febrile morbidity (31% vs. 7%)
- Post-op Hgb decrease (2.5 g/dl vs. 1.6 g/dl)
- Blood Transfusion (14.5 vs. 1.2%)
- Return to hospital (25.5% vs. 5.4%)
- Length of Hospital Stay (8.9 days vs. 6.3 days)

Thomson Conclusion:

Ultrasound detection of vault hematoma following vaginal hysterectomy is a common finding associated with increased febrile morbidity, need for blood transfusion, longer hospital stay and higher re-admission rate.
Conclusion:
Collections of fluid at the vaginal vault are common after hysterectomy, but do not usually contribute to postoperative morbidity.

Haynes 1995
- Both abdominal and vaginal hysterectomies
- 40% had collections
- They considered any fluid significant

- Of 28 patients with fluid
- 5/28 with pyrexia
- Of 38 patients with no fluid
- 3/38 with pyrexia

Conclusion:
Collections of fluid at the vaginal vault are common after hysterectomy, but do not usually contribute to postoperative morbidity.
Dane 2007

- 103 women with vaginal hysterectomies looked for “non peristaltic complex echogenic mass”
- Did not report if there were any other fluid collections.

- 19.4% had hematomas
- Febrile morbidity in 40% with hematomas
- 2.4% without hematomas

Conclusion:

Ultrasound detection of vault hematoma following vaginal hysterectomy is a common finding associated with increased febrile morbidity, need for blood transfusion, longer hospital stay and higher re-admission rate.

- 20% of patients with vaginal hysterectomy have hematomas
- Patients who have hematomas no worse in terms of fever, hospital days, extra surgical procedures.
Q: Does a drain help?
A: yes

Q: Should patients get routine ultrasound post-op?
A: Not unless they have a fever

Q: If a hematoma is discovered what should be done?
A: Since I'm only discovering hematomas in people with fever I would drain every one. Hematoma + Fever = Drainage