Evidence-Based Review of Transvaginal Hysteropexy for Uterovaginal Prolapse

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Objectives

• Discuss hysteropexy indications
  - Patient selection
  - Contraindications
• To summarize existing evidence regarding objective and subjective outcomes of native tissue hysteropexy techniques vs vaginal hysterectomy for uterovaginal prolapse
• To present results of most recent RCT of mesh hysteropexy/repairs to TVH/repairs for uterovaginal prolapse: Study of Uterine Prolapse Procedures Randomized Trial (SUPeR)
Do We Have to Perform a Hysterectomy?

- Uterus not the cause
- Hysterectomy routinely performed - improve support
  - True?
  - Standard of care?
- Limited exposure to hysteropexy – residency/fellowship
- Women request hysteropexy - unique reasons or preferences/clinical situations

- An increasing number of studies are investigating uterine sparing procedures with an emphasis on:
  - efficacy
  - safety
  - improved quality of life
Outcomes of NT Hysteropexy vs Hysterectomy

- Recent systematic review addressing this issue:
  - Similar short-term efficacy, 3 years (apical recurrence, RR 2.22, 95% CI, 0.80 to 6.17; anterior, RR 0.86, 95% CI, 0.48 to 1.55; posterior RR 0.79, 95% CI, 0.79 to 2.03)
  - Decreased blood loss (-89.9 mL, 95% CI, -14.9 to -165.0 mL)
  - Decreased operative time (-17.5 min, 95% CI, -6.0 to -29.2 min)
  - Satisfaction (RR, 1.07, 95% CI, 0.38 to 2.99)

*Meriwether et al., 2018

Patient Opinions

- 220 referrals prolapse
- 127 (57.5%) response
- 60% choose hysteropexy if equal efficacy
  - Hysterectomy: worsen mood, relationship, QOL, femininity, body image, lubrication, sex drive, weight gain
- Most important factors:
  - Doctor’s opinion
  - Risk of surgical complications
  - Risk of malignancy


So why am I talking about this?

- Do I have something against vaginal hysterectomy?
- Am I on a crusade to “SAVE THE UTERUS”?

**NO!**

- Do I want to have an evidence-based discussion with my patients on all surgical options for the treatment of uterovaginal prolapse?

**YES!**
Why Leave the Uterus?

- Desires future fertility
- Belief that the uterus affects sexual function or sense of identity
- Concern about risks of hysterectomy

Hysterectomy / Ovarian Function

- Prospective cohort, age 30-47
- Hyst no BSO (406) vs Controls (465)
- Annual blood samples x 5 yrs
- Ovarian failure: FSH ≥ 40
- Hyst: HR = 1.92 (1.29-2.86)
  - Hyst only: HR = 1.74 (1.14-2.65)
  - Hyst + USO: HR = 2.93 (1.57-5.49)
- 14.8% Hyst vs 8% controls ovarian failure >4 yrs


Contraindications Uterine Conservation

- Uterine abnormalities
  - Fibroids, adenomyosis, endometrial pathology
  - Current/recent cervical dysplasia
  - Abnormal menses
  - PMB
- Genetic risks
  - BRCA 1 & 2, HNPCC
- Tamoxifen therapy
- Unable to comply with routine surveillance
Types of Hysteropexy

- **Vaginal**
  - Manchester
  - Uterosacral hysteropexy
  - Sacrospinous hysteropexy
  - Vaginal Mesh hysteropexy

- **Abdominal**
  - Sacral hysteropexy
    - Laparotomy
    - Laparoscopy
    - Robotic
  - Laparoscopic uterosacral hysteropexy

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The chart shows the distribution of patients based on age and surgical findings:

- Premenopausal: 178/644 (27%) patients
- Postmenopausal: 466/644 (73%)

- Normal uterus: 115/644 (18%)
- Abnormal uterine bleeding with negative workup: 63/644 (10%)
- No vaginal bleeding: 421/644 (65%)
- Postmenopausal bleeding with negative workup: 45/644 (7%)

- Benign: 178/178 (100%)
- Endometrial cancer or hyperplasia: 114/21 (5%)
- Endometrial cancer or hyperplasia: 6/45 (13%)
Manchester Procedure

- First described in 1888 by McDonald and modified by Fothergill, 1921
- Primarily a procedure for cervical elongation (cervical amputation followed by midline cardinal and uterosacral ligament plication)
- Premenopausal women to maintain fertility
- Older women with medical co-morbidities

Manchester Procedure

- **Only RCT**, Ünlübilgin et al, 2013
- Primary outcome, prolapse recurrence 5 years defined as point C > 1
- 49 MP vs 45 TVH
- No difference between groups at baseline, point C (0.77±0.75, MP vs 1.31±0.51, TVH p=0.062)
- No difference 5 years, (-6.3±0.91 MP vs -6.0±0.97 TVH, p=0.13)
- MP: shorter operative time, p=0.003 and shorter hospital stay, p=0.042

Manchester Procedure vs TVH

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Surgeries</th>
<th>Number of Patients</th>
<th>Success Rate</th>
<th>Follow Up</th>
<th>Success Definition</th>
<th>Outcome Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thys et al (2011)</td>
<td>Retrospective matched cohort</td>
<td>MP vs. TVH with USLS</td>
<td>MP: 98 TVH: 96</td>
<td>MP: 81% TVH: 82%</td>
<td>Median 6 years</td>
<td>No recurrence of prolapse on exam (unclear)</td>
<td>QOL, morbidity, POP recurrence</td>
</tr>
<tr>
<td>Ilyev (2014)</td>
<td>Retrospective matched cohort</td>
<td>MP vs. TVH</td>
<td>MP: 33 TVH: 33</td>
<td>MP: 90% TVH: 85%</td>
<td>1 year</td>
<td>No retreatment of prolapse (unclear)</td>
<td>POP recurrence, re-treatment, complications, operative time, EBL</td>
</tr>
<tr>
<td>Kalogirou (1996)</td>
<td>Retrospective cohort</td>
<td>MP vs. TVH with AR</td>
<td>MP: 180 TVH: 211</td>
<td>MP: MD TVH: MD</td>
<td>3 years</td>
<td>No anatomic outcomes</td>
<td>Operative time; EBL; hospital stay</td>
</tr>
<tr>
<td>De Boer et al (2009)</td>
<td>Retrospective cohort</td>
<td>MP vs. TVH with USLS</td>
<td>MP: 81 TVH: 75</td>
<td>MP: 100% TVH: 96%</td>
<td>1 year</td>
<td>POPQ point C (Stage 1 or less)</td>
<td>POPQ points, operative time, EBL, hospital stay</td>
</tr>
<tr>
<td>Thomas et al (1995)</td>
<td>Retrospective cohort</td>
<td>MP vs. TVH</td>
<td>MP: 88 TVH: 105</td>
<td>MP: MD TVH: MD</td>
<td>no follow up</td>
<td>No anatomic outcomes</td>
<td>Operative time; EBL; hospital stay</td>
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Uterosacral Hysteropexy

- No RCTs comparing outcomes of USH and TVH
- Romanzi et al, 2012 retrospective cohort
- Primary outcome ≥ Grade 2 prolapse any compartment; N=100 each group
- No difference in baseline anterior or apical compartments (point C, 2.91±0.91, USH vs 2.84±1.02, TVH, p=0.82)
- No difference in 2 year recurrence-free durability apex: (96%, 95% CI, 87.7%, 98.8%), p=0.90

Uterosacral Hysteropexy

Sacrospinous Hysteropexy

- Best studied vaginal uterine-sparing procedure
- SSLF of the vaginal cuff first described in 1950’s
- Richardson et al, reported a case series of 5 patients in 1989

Richardson, Scotti, Ostergard, JPM, 1989
Sacrospinous Hysteropexy


Sacrospinous Hysteropexy

• Unilateral
• Bilateral

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<th>Success Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hefni et al (2003)</td>
<td>Prospective cohort</td>
<td>SSH vs TVH with SSLF</td>
<td>SSH: 61</td>
<td>SSH: 94%</td>
<td>33 months</td>
<td>Apex greater than 6cm from hymen on valsalva</td>
</tr>
<tr>
<td>Maher et al (2001)</td>
<td>Retrospective cohort</td>
<td>SSH vs TVH with SSLF</td>
<td>SSH: 34</td>
<td>SSH: 74%</td>
<td>26 months</td>
<td>Apex above 1/2 TVL, no repeat surgery</td>
</tr>
<tr>
<td>Van Brummen (2003)</td>
<td>Retrospective cohort</td>
<td>SSH vs TVH with USLS</td>
<td>SSH: 44</td>
<td>SSH: 89%</td>
<td>19 months</td>
<td>Baden-Walker grade 1 or less of any compartment</td>
</tr>
<tr>
<td>Lo et al (2015)</td>
<td>Retrospective cohort</td>
<td>SSH vs TVH with SSLF</td>
<td>SSH: 26</td>
<td>SSH: 50%</td>
<td>95 months</td>
<td>POPQ Stage 1 or less</td>
</tr>
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**Sacrospinous Hysteropexy**

- Dietz 2010
  - **RCT** SSH (n=37) vs. TVH, USLS (n=34)
  - Apical recurrences: 21% vs. 3%, p=0.03
  - 3 SSHP stage 4 prolapse – all failed
  - Subjective: both improved
  - Shorter LOS, quicker return work, longer TVL
  - Anterior prolapse (51% vs. 64%)


- **Functional and QOL similar**
- **AEs:** Buttock pain, 9% vs 0%

Detolenaere et al, BML 2015
Sacrospinous Hysteropexy

- Jeng 2005
- RCT, SSH vs TVH/SSLF
- No difference sexual function (FSFI-7)
- Low rate dyspareunia (5%)
- No anatomic outcomes
- Transient buttock pain (15%)


Vaginal Mesh Hysteropexy

Vaginal Mesh Hysteropexy
Uphold™ Hysteropexy

- 115 total, 53 HP
- Follow-up 12 mo
- POP-Q Preop Postop p
  - Ba 0.9 -2.4 <0.01
  - C -2.4 -7.7 <0.01
  - Bp -0.1 -2.6 <0.01
- 1(1.9%) apical recurrence, no anterior (POPQ ≤ 1)
- 1 (1.9%) mesh exposure, no pain/dyspareunia


Study of Uterine Prolapse Procedures
Randomized Trial (SUPeR), NCT01802281
- RCT: Apical Uphold Mesh Hysteropexy/Repairs vs TVH/Repairs
- Primary Outcome: 36 months, survival models
- Composite outcome: no prolapse symptoms, no prolapse beyond the hymen, no retreatment
- N=175 total, mean age 65.9±0.6
- No difference in primary outcome, aHR 0.65, 95% CI 0.39, 1.06
- Operative times significantly shorter in HSP group, 111.5±4.2 min vs 156.7±4.7 min, p=0.0001
- POPQ point Ba, HSP -1.2±0.1 vs TVH 0.7±0.2, p=0.03
- Mesh exposure 8%
- Functional and QOL similar

Nager et al, FPMRS 2016
Pregnancy and Hysteropexy

- Pessary first line
- Limited information counselling patients desiring future pregnancy
- No data regarding which hysteropexy better for:
  - Fertility
  - Pregnancy & delivery
  - Postpartum support & durability

Cavkaytar et al, 2017

How Do I Choose a Vaginal Uterine-Sparing Approach?

- Desires future fertility
  - Vaginal SSH
- Completed childbearing and sexually active
  - Vaginal SSH, TV mesh hysteropexy
- Done with childbearing and not sexually active
  - LeFort Colpocleisis
  - Other obliterative approach (SSH/obliterative closure)
Conclusion

- Uterine conservation is a reasonable option and would discuss all options with patients
- Proper patient selection
- Limited long-term data
- Subsequent hysterectomy may be challenging
- Currently not standard of care-increasingly being offered and performed
- Better results: data would support mesh anterior compartment; need longer term outcomes of RCTs
- Risk failure: Stage 4/cervical elongation

For more information on active studies

Please visit our Urogynecology table:
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Robin Willingham, RN, BSN

Call: 205-934-5498

Select References

- Romanzi L.J., Tyagi, R. Hysteropexy compared to hysterectomy for uterine prolapse surgery: does durability differ?. Int Urogynecol J. 2012;23:625-631
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