Understanding Pelvic Organ Prolapse

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Female Pelvic Medicine and Reconstructive Surgery
Disclosures

- None

I am the daughter of a physician assistant.
Objectives

- List types of pelvic organ prolapse
- Discuss office based treatment of prolapse
- Discuss surgical treatment of prolapse
The pelvic floor includes the muscles, ligaments and connective tissue in the lowest part of the pelvis. It supports the pelvic organs and keeps the organs from falling down or out of the body.

- Puboanalis
- Pubococcygeus
- Puborectalis
- Iliococcygeus

http://www.ic-network.com/conditions/pelvic-floor-dysfunction/the-pelvic-floor-muscles/
Pelvic Floor Disorders

- Pelvic floor disorders
  - Pelvic floor disorders include pelvic organ prolapse (POP), urinary incontinence, and fecal incontinence
  - Lead to health care costs of approximately $20 billion annually

- 40-60% of parous women will have some evidence of prolapse on exam

- Only about 8-10% of women report prolapse on surveys

Handa el al 2004, Hendrix et al, 2002
Impact of Pelvic Floor Disorders

**Lifetime risk of surgery**
- Pelvic floor dysfunction: 20%
  - Regional increases for POP and stress incontinence
- Pelvic organ prolapse: 12.6%

**Annual risk of pelvic organ prolapse surgery**
- Peak age of 71-73
- 4.3 per 1,000 women

1/5 Women >18yrs old will have surgery for POP or SUI by 80 yrs!!!

*Obstet Gynecol 2014;123:1201–6*
Risk Factors

- Parity
  - Just being PREGNANT
- Age
- Race/Ethnicity
- Obesity
- Hysterectomy
- Chronic straining and heavy lifting
Types of Pelvic Organ Prolapse

Cystocele
- Anterior wall prolapse

Rectocele
- Posterior wall prolapse
Types of Pelvic Organ Prolapse

Uterovaginal

- Cervix and/or uterine prolapse

Vaginal vault

- Decent of the apex of the vagina
Other Types of Prolapse

Urethral Prolapse

Rectal Prolapse

Small Bowel
Evaluation

- History
  - Prolapse often described as a bulge, pressure, pulling
  - Concomitant incontinence
  - Severity index
    - Questionnaires, quality of life, pads, splinting
  - Constipation and defecatory dysfunction
  - Prior surgeries to pelvis
  - Sexual function
Evaluation

- Physical exam
  - General - mental status, BMI, dexterity
  - Abdominal - masses, bladder distension, relevant scars
  - Pelvis
    - Compartmentalize prolapse
      - POPQ vs. Baden Walker
      - Terminology
# Pelvic organ prolapse staging

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No prolapse&lt;br&gt;Aa, Ba, Ap, Bp are -3 cm and C or D ≤ -(tvl - 2) cm</td>
</tr>
<tr>
<td>1</td>
<td>Most distal portion of the prolapse -1 cm (above the level of hymen)</td>
</tr>
<tr>
<td>2</td>
<td>Most distal portion of the prolapse ≥ -1 cm but ≤ +1 cm (≤1 cm above or below the hymen)</td>
</tr>
<tr>
<td>3</td>
<td>Most distal portion of the prolapse &gt; +1 cm but &lt; +(tvl - 2) cm (beyond the hymen; protrudes no farther than 2 cm less than the total vaginal length)</td>
</tr>
<tr>
<td>4</td>
<td>Complete eversion; most distal portion of the prolapse ≥ + (tvl - 2) cm</td>
</tr>
</tbody>
</table>

Aa: Point A of anterior wall; Ba: point B of anterior wall; Ap: point A of posterior wall; Bp: point B of posterior wall; -: above the hymen; +: beyond the hymen; tvl: total vaginal length.

Evaluation

- Imaging
  - Pelvic floor ultrasound
3D Ultrasound
3D Ultrasound
Evaluation

- Imaging
  - MRI
MRI

Resting

Straining
Evaluation

- Other
  - Defecography
    - Imaging rectal expulsion of barium paste enema
  - Cystoscopy
  - Urodynamics
    - Test for de novo SUI
      - 13-65% of continent women will develop SUI after surgical correction of prolapse
When Do We Treat?

- Expectant management is almost always an option!
- Except with:
  - Urinary dysfunction
  - Defecatory dysfunction
  - Inability to reduce prolapse
  - Significant vaginal erosion
  - Sexual dysfunction*
  - Patient desires treatment
Conservative Treatment

- Pelvic Floor Physical Therapy
  - Techniques
    - Biofeedback, electrical stimulation, ultrasound, exercises, manual techniques
  - Studies show that there is both subjective and objective improvement in symptoms
  - Primarily women with prolapse not extending beyond the hymenal ring

Hagen et al, 2013, Stupp et al, 2011, Braekken et all 2010
Conservative Management

- Common misconceptions:
  - Patients who have tried kegel exercises on their own will not benefit from PT.
  - Patients can be cured after a few weekly visits.
  - A person who has already had surgery or is planning surgery cannot be helped by PT.
  - Any physical therapist can perform pelvic floor physical therapy.
Conservative Treatment

- Pessary Use
  - Stress incontinence
  - Vaginal vault prolapse
  - Uterovaginal prolapse
  - Cystocele
  - Rectocele
  - Enterocele
Conservative Treatment

- PRACTICAL ADVICE
  - If you can only have 2 pessaries in your office, make them a ring with support and a Gellhorn
Conservative Treatment

- Check out [www.afp.org](http://www.afp.org)
  - “Practical Use of the Pessary”

- Important to note
  - Proper sizing
  - Proper placement
  - When to give up
  - When to stop

- These people need follow up
Conservative Treatment

- Success rates
  - At 6 months- ~80%
  - At 2 years- ~60%
  - At 5+ years- widely variable

- Complications
  - Erosions
  - Pain
  - Defecatory dysfunction
  - Voiding dysfunction

Lone et al, 2011; Sarma et al, 2009
Surgical Treatment

• Principles
  • Restore and maintain urinary and/or fecal continence
  • Reposition pelvic structures to normal anatomical relationships
  • Maintain ability to have normal coital function if patient desire
  • Correct any coexisting abnormal pelvic pathology
  • Alleviate abnormal symptoms
  • Obtain a durable result
Surgical Treatment

- **Restorative Procedures**
  - Adequate pelvic fascia and muscles
  - No risk factors for recurrence

- **Compensatory Procedures**
  - Risk factors for recurrence
  - Prior failures
  - Weak pelvic floor musculature

- **Obliterative Procedures**
  - Poor surgical candidate
  - No desire for future coitus
  - Prevent enterocele
Restorative Procedures

- Anterior Colporrhaphy
  - Success rates vary - 40-100%

- Posterior Colporrhaphy
  - Success rates around 80%
Restorative Procedures

- Iliococcygeus suspension
  - Very small trials
  - Designed to decrease injury to the pudendal nerve bundle and lower the rate of recurrent anterior wall prolapse
Restorative Procedures

- Sacrospinous ligament suspension
  - Case series show 80-90% success for correcting apical prolapse
  - 20% rate of recurrent prolapse (mostly anterior) attributed to posterior deflection of vaginal axis

Restorative Procedures

- Uterosacral ligament suspension
  - Reported rates of success 82-100%
  - “Anterior” success rate – 67%
  - Overall reoperation for recurrent prolapse – 1-9%
- Complications
  - Ureteral occlusion
  - Ureteral reimplantation
  - Bowel injury

Compensatory Procedures

- Autografts - rectus fascia and fascia lata
- Allografts - cadaveric dermis
- Xenografts - mostly porcine and bovine
- Mesh - polypropylene mesh
Compensatory Procedures

- **Anterior**
  - Any biologic compared to anterior colporrhaphy is a lower OBJECTIVE failure rate but no SUBJECTIVE benefit
  - Better outcome with mesh compared to biologic, but much higher exposure rates

- **Posterior**
  - Transvaginal approach is superior to transanal approach
  - Biologic material does NOT improve anatomic or functional outcomes

Feldner et al 2010, Menefee et al 2011, Sung et al 2012,
Compensatory Procedures

- Apical
  - Sacrocolpopexy - open, laparoscopic, robotic
  - Success is 78-100%
    - Outcomes are similar in all 3 techniques
    - Longer OR time, increased pain, and increased cost with robot compared to laparoscopy

Considerations

- UTI - 11%
- **Mesh erosion** - 10.5%
- Wound infections - 4.6%
- Hemorrhage - 4.4%
- Injury (bowel, bladder, ureters)
- Nerve injuries
- Sacral osteomyelitis

- Lower rates of recurrent vaginal prolapse and dyspareunia than other vaginal colpopexy procedures
- Increased cost and OR time over vaginal suspension procedures

Nygaard, 2013, Nygaard, 2004
A Quick Word on Mesh Kits

What we thought it would look like:

[Images of mesh kits]

What it actually looks like:

[Images of medical procedures and complications]
Compensatory Procedures

- Is there a role for mesh?
  - Proper patient selection
  - Proper training
  - Counsel patient
Obliterative Procedures

- LeFort Colpocleisis
- Colpectomy
# Obliterative Procedures

**Ideal Surgery For Elderly Patients**
- Good anatomic outcomes
- Minimal anesthesia required
- Short operative time
- Less blood loss compared with reconstructive procedures

**Most Common Complications**
- UTI - 9%
- De novo SUI (1 – 9%)
- Urinary urgency
- Urinary retention
- Hematoma
- Death - 1.3%

*Only to be performed in patients who no longer wish to have vaginal intercourse*

Zebede et al, 2013
Results of Obliterative Surgery

- Success rates
  - Partial- 83-100%
  - Total- 89-100%
- Patient satisfaction- 86-100%
- Regret- 0-13%
- Multiple studies show on validated questionnaires improvements in bother and impact of prolapse, coloanal, and urinary symptoms

Wheeler et al 2009
Can We Prevent Prolapse?

- Mode of delivery
  - Vaginal delivery vs. Cesarean delivery
  - Operative vaginal delivery
  - 2\textsuperscript{nd} stage of labor
- Physical therapy before delivery
- Water birth
- Episiotomy
Prevention??

Elective Cesarean Section

**PRO**
- Objective POP at 12yrs
- POP Symptoms at 20yrs

**CON**
- SVD Number Needed to Harm: 135
- Surgical Risk
- Increased BF Difficulty
- Neonatal Risk
- Uterine Rupture
- Abnormal Placenta

*BJOG 2013;120:161–8.*
*Sexual & Reproductive Healthcare 3 (2012) 99–106*
Prolapse in Pregnancy

- Modified bed rest?
- Modified Gilliam suspension?
- Pessary!!!!
  - Keep in during first stage of labor
  - Avoid oxytocin and misoprostil
  - Cesarean delivery

Tsikouras et al, 2015
Pessary for Cervical Insufficiency

- Statistically significant reduction in preterm birth less than 37 weeks in singletons

- Twin data
  - Twin pregnancy with pessary does not reduce poor perinatal outcomes (ProTWIN study)
  - If twins AND short cervix shows decrease in delivery prior to 32 weeks

Abdel-Aleem 2013, Fox 2016, Nicolaides 2016
Questions?

You’re not alone
1 in 3 women experience PFD
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