Pelvic Organ Prolapse

Background

1. Definition
    - Hernia of pelvic organ (uterus, vaginal apex, bladder, rectum) and its associated vaginal segment from its normal location
    - Cystocele:
        - Hernia of bladder with associated descent of anterior vaginal segment
    - Cystourethrocele:
        - Cystocele combined with distal prolapse of urethra (bladder neck) with or without associated urethral hypermobility
    - Uterine prolapse:
        - Descent of uterus and cervix into lower vagina, to hymenal ring, or through vaginal introitus
    - Vaginal vault prolapse:
        - Descent of vaginal apex (following hysterectomy) into lower vagina, to hymenal ring, or through vaginal introitus
    - Rectocele:
        - Hernia of rectum with associated descent of posterior vaginal segment
    - Enterocele:
        - Herniation of small bowel/peritoneum into vaginal lumen, most commonly presenting following hysterectomy in conjunction with vaginal vault prolapse
2. General information
    - Graded on scale of 1-4
        1. Halfway to the hymen
        2. At the hymen
        3. Halfway out of the hymen
        4. Total prolapse (procidentia)

Pathophysiology

1. Pathology of disease
    - Fascial defects that result in anterior, apical, or posterior vaginal segment weakness; complex interplay of pelvic floor musculature, fascia and nerves
2. Incidence
    - Population based surveys:
        - 4-10% of women report symptoms of pelvic organ prolapsed
    - Women's Health Initiative Study, 41% of women aged 50-79 showed some degree of pelvic organ prolapse
        - 34% had cystocele
        - 19% rectocele and
        - 14% uterine prolapsed on exam[3]
    - Prolapse
        - Is the most common reason for hysterectomy in women >50 yo
        - Accounts for 13% of hysterectomies in women of all ages
    - Up to 40% incidence over 3 years in postmenopausal women

3. Prevalence
    - 7% prevalence of pelvic organ prolapse in questionnaire study of 4,458 women aged 25-84 years
    - Stage 0 (6.4%)
    - Stage 1 (43.3%)
    - Stage 2 (47.7%)
    - Stage 3 (2.6%)
    - Stage 4 (none)
4. Risk factors - most will have at least 2 risk factors
    - Birth trauma, parity - especially vaginal birth
    - Operative vaginal delivery
    - Chronic elevated intra-abdominal pressure (obesity, chronic cough, heavy lifting, chronic constipation)
    - Obesity
    - Advanced age
    - Intrinsic pelvic muscle weakness or neurogenic dysfunction
    - Atrophic changes
    - Pelvic surgery with disruption of natural support
    - Genetic predisposition
5. Morbidity / mortality
    - Presence and severity of symptoms are not strongly correlated with stage and site of prolapsed

Diagnostics

1. History:
    - Only symptom specific to prolapse is the awareness of a vaginal bulge or protrusion
        - For all other pelvic symptoms, resolution with prolapse treatment cannot be assumed (SOR:A)
    - Urinary symptoms - stress incontinence, slow stream especially with valsalva, retention due to urethral kinking
    - Defecation symptoms - patient may need to splint posterior vagina to defecate
    - Sexual dysfunction
2. Physical exam
    - Evaluate vaginal support in both upright and recumbent (dorsal lithotomy) positions
    - Describe each area of vaginal anatomy
    - Grave's speculum with upper blade removed facilitates exam of anterior vagina and side walls
    - Exam with valsalva
    - Rectovaginal exam particularly when standing can identify an enterocele
    - Assess for stress incontinence when standing with cough and when prolapse is manually reduced
3. Diagnostic testing
    - Urinalysis
    - Post-void residual urine volume testing using a catheter or bladder ultrasound scan

- Urodynamic investigations
- If there are bowel symptoms consider the following:
  - Anal manometry
  - Defecography
  - Endoanal ultrasound scan (to look for an anal sphincter defect if fecal incontinence is present)

Therapeutics

1. Weight loss if obese
2. Physiotherapy, pelvic floor exercise, control of constipation may be helpful in mild prolapse
3. Pessaries can be fitted in most women with prolapse, regardless of prolapse stage or site of predominant prolapsed (SOR:A)
   - Pessary use should be considered before surgical intervention in women with symptomatic prolapsed (SOR:B)
   - **Fitting a pessary**[4]
     - Ensure patient's bladder and bowel are empty
     - Perform bimanual exam and use forefinger to estimate the size of vagina
     - Aim is to fit the largest pessary that does not cause discomfort
     - Pessary fits well if a finger can be swept between the pessary and the walls of the vagina
     - Ask patient to walk around, bend and micturate to ensure that pessary is retained
     - Follow up:
       - No clear consensus
       - After 3 months and then every 6 months if there are no complications has been suggested
     - At each follow-up:
       - Ask about new symptoms
       - Examine the vagina for irritation and erosions
       - Change the pessary
       - If erosions are seen, remove pessary and apply estrogen cream
       - If erosion does not heal, arrange biopsy
     - Complications:
       - Vaginal discharge and odor, vesicovaginal and rectovaginal fistulas, fecal impaction, hydronephrosis, urosepsis
       - These tend to occur in women who are not regularly followed up
4. Surgical Tx
   - Preferred treatment for severe prolapse
   - Options depend on type of prolapse
   - Abdominal sacrocolpopexy is associated with lower rate of recurrent vault prolapse and dyspareunia than vaginal sacrospinous colpopexy
   - Potential benefits in performing a prophylactic anti-incontinence procedure at the time of prolapse repair (SOR:C)
   - Posterior colporrhaphy beneficial versus transanal repair in women with posterior vaginal wall prolapse

Prognosis/Recurrence

1. Condition tends to worsen with age
2. Surgical prognosis depends on the extent of prolapse, physician experience and patient expectation
3. Surgery may decrease dyspareunia
4. Recurrence/reoperation rate of up to 30%
    - Site specific surgery and use of mesh may improve prognosis

Prevention (evidence lacking for most):

1. Good intrapartum care, including avoiding unnecessary instrumental trauma and prolonged labor
2. Role of hormone replacement therapy in preventing prolapse is uncertain
3. Pelvic floor exercises may prevent prolapse occurring secondary to pelvic floor laxity and are strongly advised after childbirth
4. Smoking cessation will reduce chronic cough
5. Weight loss if overweight or obese
6. Avoidance of heavy lifting occupations
7. Treatment of constipation throughout life
8. Estrogen - no evidence of usefulness for prevention or treatment
9. Cesarean delivery during active labor does not protect women from developing pelvic organ prolapse related to childbirth

Patient Education

1. http://www.acog.org/publications/patient_education/bp012.cfm

References

1. ACOG Practice Bulletin No. 79: Pelvic Organ Prolapse ,Obstetrics & Gynecology . 109(2, Part 1):461-473, February 2007
2. ACOG Practice Bulletin No. 85: Pelvic Organ Prolapse, Obstetrics & Gynecology . 110(3):717-730, September 2007.
3. Adams E, Thomson A, Maher C, Hagen S. Mechanical devices for pelvic organ prolapse in women. Cochrane Database of Systematic Reviews: Reviews 2004 Issue 2
4. Hagen S, Stark D, Maher C, Adams E. Conservative management of pelvic organ prolapse in women. Cochrane Database of Systematic Reviews: Reviews 2006 Issue 4
5. Ismail SIMF, Bain C, Glazener CMA, Hagen S. Oestrogens for treatment or prevention of pelvic organ prolapse in women. Cochrane Database of Systematic Reviews: Protocols 2008 Issue 2
6. Maher C, Baessler K, Glazener CMA, Adams EJ, Hagen S. Surgical management of pelvic organ prolapse in women. Cochrane Database of Systematic Reviews: Reviews 2007 Issue 3
7. Swift S, Woodman P, O'Boyle A, et al; Pelvic Organ Support Study (POSST): the distribution, clinical definition, and epidemiologic condition of pelvic organ support defects. Am J Obstet Gynecol. 2005 Mar;192(3):795-806.
8. Sze EH, et al. Pregnancy, labor, delivery, and pelvic organ prolapse. Obstet Gynecol November 2002;100(5 pt 1):981-6.

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