Pregnancy: A Challenging Time for Treatment of Urogynecologic Problems

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Objectives

• Identify and treat minor urogynecologic problems in pregnancy including asymptomatic bacteruria, interstitial cystitis, and urethral diverticulums

• Exploration of treatment options of prolapse and incontinence in the pregnant patient

• Discuss evaluation for bladder involvement in placenta percreta
Asymptomatic Bacteruria

- Urinary tract infections are the most common bacterial infections during pregnancy

- Asymptomatic bacteruria is the most common of these

- 90% *Escherichia coli*

- Incidence in pregnancy 2-7%
Asymptomatic Bacteruria

- Typically present at 1st prenatal visit

- If initial positive culture is treated, less than 1% of women develop urinary infection

- If not treated, 25% of infected women will develop symptomatic infection during pregnancy

- May treat colony counts as little as 20,000 because of risk of pyelonephritis
Treatment

- Multitude of acceptable treatments
- Selection can be based on in vitro susceptibilities
- Recurrence rate can be as high as 30%
- If persistent or frequent infections, consider suppression such as nitrofurantoin 100mg QHS
- Remember pulmonary fibrosis
Interstitial Cystitis

- Symptoms usually better during pregnancy
- Stop pentosan polysulfate
- Still use hydroxyzine, bladder instillations and pyridium
Urethral Diverticulum

- Cystic enlargement of a paraurethral gland
- Found on anterior vaginal wall and communicates directly with the urethra
- Incidence 1-5% of the general female population
Urethral Diverticulum

• Pregnancy is not the ideal time to treat

• If symptomatic
  – Patient can digitally compress
  – Perform periodic needle aspiration

• Antibiotic prophylaxis if recurrent UTIs occur

• Plan post-partum urethral diverticulectomy
Urethral Diverticulectomy
Pelvic Organ Prolapse

- 300,000 pelvic organ prolapse surgeries per year in the United States

- Outnumber surgeries for stress incontinence 2:1 ratio.

- 1 in 9 women will have surgery for pelvic floor disorders by age 80

- 30% will require reoperation
Pelvic Organ Prolapse

• Vaginal delivery risk factor most commonly cited for development of pelvic organ prolapse

• 2 vaginal deliveries: 8.4 times more likely to have surgery for prolapse compared to women with no deliveries

• When comparing vaginal delivery to cesarean delivery, increased odds ratio for prolapse in vaginal delivery group 1.82 (95% CI 1.04-3.19)
Pelvic Organ Prolapse

- Up to 46% of nulliparous women have been shown to have prolapse in late third trimester

- Studies have demonstrated that bladder and urethral mobility increase in pregnancy; greatest incidence during the third trimester

Uterine Prolapse

- May be present during early pregnancy
- With fetal growth, the uterus is usually pulled out of the pelvis
Uterine Prolapse

- Incarceration may occur 10-14 weeks (can also happen with retroflexed uterus)

- Abdominal discomfort, pelvic pressure, and voiding dysfunction
  - Acute retention

- Drain bladder

- Place patient in knee-chest position

- Apply pressure to uterus directly or digitally through the rectum

- Spinal or general anesthesia

- Short term catheter and pessary
Uterine Prolapse

• May prevent incarceration by placing a pessary early in pregnancy

• Laproscopic uterosacral plication

• Successful pregnancies and vaginal deliveries reported following sacrospinous uterosacral fixation (Kovac and Cruikshank, 1993.)
Cystocele

• Results from attenuation of fascial support between the vagina and bladder

• Can result in urinary stasis and predispose to bladder infections
  – Make sure post-void residuals are not elevated
  – Prophylactic antibiotics if needed
  – Pessary to reduce

• Can block fetal descent during labor
  – Keep bladder drained and pushed out of the way
Rectocele

• Attenuation of rectovaginal fascia

• May block fetal descent during labor
  – Evacuate manually if necessary and push out of the way
Enterocele

- Rare

- If symptomatic, attempt to replace and keep patient recumbent as much as possible
Ring with Support

- 1\textsuperscript{st} and 2\textsuperscript{nd} degree prolapse complicated by mild cystocele

- Posterior Fornix to the Pubic Notch
Urinary Incontinence

During pregnancy, up to 32%:

- Maternal weight gain

- Increased mechanical pressure from enlarging uterus resulting in increased bladder pressures

- Urethral closing pressures do not increase sufficiently to compensate

- Increased urine production from increased GFR
Urinary Incontinence

Conservative Treatments

– Lifestyle modifications
  • Avoiding caffeine
  • Adequate but not excessive fluid intake

– Incontinence Rings

– Pelvic Muscle Exercises
Incontinence Ring

- Stabilizes urethrovésical junction
- Designed only for SUI
- Increases closure pressure
Ring with Support and Knob

- Stabilizes urethrovesical junction
- Supports a mild uterine prolapse complicated by a mild cystocele & SUI.
- Increases closure pressure
Urinary Incontinence

• Postpartum stress incontinence reported in as many as 35% of women

• Multifactorial

• Neurogenic and mechanical damage

• Women found to have urinary symptoms and abnormal urodynamic findings even without entering the second stage of labor

Post-partum Urinary Incontinence

- 161 women, 12 weeks after 1st delivery
  - 41 assisted vaginal delivery
  - 89 normal vaginal delivery
  - 31 cesarean section

- Post-partum symptoms
  - Urgency- 23(14%)
  - Urge incontinence- 8(5%)
  - Stress incontinence- 31(19%)

- Urodynamic stress incontinence
  - Only confirmed in 5%

Urinary Incontinence

- Women with persistent stress incontinence at 3 months postpartum have a 92% chance of having stress urinary incontinence at 5 years

Placenta Accreta

- Absence or deficiency of the spongiosus (Nitabuch’s) layer of the decidua underlies placenta accreta, increta or percreta

- Incidence of 1/2500 deliveries
Diagnosis of Placenta Accreta

Clinical suspicion

• Combination of low-lying placenta and previous history of at least one Cesarean section

Diagnosis of Placenta Accreta

**Ultrasound**

- Primary diagnostic tool
- Widely available and inexpensive
- 60-70% sensitivity
- Vascular lacunae are the best predictors
Ultrasound of Placenta Accreta
Invasion into the Bladder

Increased vascularity (demonstrated with color doppler imaging), loss of the normal placental/myometrial interface (the hypoechoic rim), increased echogenicity of the myometrium (particularly in increta or percreta), and the presence of lacunae or vascular spaces.
Diagnosis of Placenta Accreta

MRI

• Similar predictive values to ultrasound

• Useful where ultrasound is technically difficult

• Most useful predictors on non-enhanced MRI: dark intraplacental bands; heterogenous signal intensity in the placenta; focal areas of uterine bulging and loss of the interface with adjacent organs
MRI of Placenta Accreta
Diagnosis of Placenta Accreta

Cystoscopy

• Elective ureteric stents
Multidisciplinary Approach

- Review of 5 cases

- Divided by timing of urologic evaluation

- 4/5 diagnosed by prenatal ultrasound with 2 also having MRI

- All underwent Cesarean hysterectomy with median blood transfusion of 12 units

Multidisciplinary Approach

• 2/5 patients had preoperative urologic assessment with cystoscopy and temporary ureteral stents
  – No urinary complications

• 3/5 patients had urologic consultation during or immediately after surgery
  – All three had urinary injuries, one of which was a ureteral injury
The Challenge

• Treatment of most urogynecologic problems is limited in pregnancy
• Most will resolve
• Those that persist have expanded treatment options remote from pregnancy