Urinary Incontinence in Women

Audrey Curtis, MD

- 25% of young women
- 44-57% of middle-aged and postmenopausal women
- 75% of older women
- $19.5 billion/yr – cost of incontinence care in US
- 6% of nursing home admissions attributed to UI
  > Cost estimate of $3 billion/yr

- 8 out of 10 cases can be improved
- <50% discuss with their provider

Pathophysiology of Urinary Incontinence

- Muscle dysfunction
- Nerve dysfunction
- Support dysfunction
  - Ligaments
  - Fascia

- Prolapse ≠ Incontinence
  - Often both present – but not causative
Types of Urinary Incontinence

- Urinary Incontinence
  - The complaint of any involuntary leakage of urine
- Stress Incontinence
  - Involuntary loss of urine with effort or physical activity
- Urge Incontinence
  - Involuntary loss of urine associated with urgency or a sudden, compelling desire to void that is difficult to defer.
- Mixed Incontinence
  - Both Stress and Urge
- Nocturnal enuresis
  - Involuntary loss of urine that occurs during sleep

Causes of Urinary Incontinence

- Predisposing Factors
  - Vaginal delivery and parity
  - Age
  - Family history
  - Obesity
  - Chronic lung disease and smoking
  - Chronic constipation
  - Infection
  - Medications
  - Estrogen use
  - Pelvic surgeries
Drugs that Cause Urinary Incontinence

- Caffeine
- Alcohol
- Diuretics
- Sedative-hypnotics (benzo’s)
- ACE inhibitors
- Calcium channel blockers
- Alpha-adrenergic antagonists / Symptholytics
  > doxazosin, prazosin, tamsulosin, terazoxin
- Opioids

Transient Causes of Urinary Incontinence

D: Delirium or acute confusion
I: Infection (UTI)
A: Atrophic vaginitis or urethritis
P: Psychological disorder
  depression, behavioral disturbance
E: Excess urine output
  excess fluid intake, diuretics, CHF
R: Restricted mobility
S: Stool impaction / constipation

Resnick, NM: Urinary incontinence in the elderly, Medical Grand Rounds, 1984
Evaluation: Urinary Incontinence

History

- Does it affect quality of life?
  - Is she using pads?
    - How many and what kind?
  - Has it stopped her from doing things she used to do?
    - Can she still exercise?
- Does she desire any help at this time?

Stress vs Urge vs Mixed symptoms

- Sneeze/cough vs gotta go – or both

Normal voiding

- Does she feel she empties completely

Reversible causes

- DIAPPERS
- Rx (diuretics, caffeine, alcohol, narcotics, antihistamines)
Evaluation: Urinary Incontinence

Examination

- Pelvic exam
  - vaginal support, vaginal discharge, vaginal atrophy
  - assess pelvic floor muscle strength – ask her to kegel
  - any tenderness
- Cough stress test
  - ask her to cough and watch for leakage
- Neurologic exam
  - watch her walk in
  - normal sensation during pelvic exam

Diagnostic Tests

- Urinalysis
  - Infection
  - Hematuria
  - Glucosuria
- Postvoid Residual
  - Only if symptomatic
  - <50 normal, >200 abnormal
    - in between is subject of disagreement
- Voiding Diary
  - Very helpful for poor historian
- Urodynamic Studies
  - Pre-operatively or confusing history
Urinary Incontinence: Treatments

- You have to know what you are treating!
  > Stress vs Urge – or both
  > Nocturia?

- Behavior Modification works for all types
  > Pelvic floor muscle exercises
  > Scheduled voiding
  > Fluid management (60-80 oz / day, avoid fluids before bed)
  > Weight loss

- Send to PT
  > Studies show 50% reduction in leaking episodes

Urinary Incontinence: Treatments

- Bring them back after PT!
  > 80% feel very helpful initially
  > Only 50% are satisfied after 1 year

- Change the things you can
  > Stop diuretics if possible
  > Diagnose / treat sleep apnea
  > Address chronic cough
Urinary Incontinence: Treatments – Urge Incontinence

- Bladder detox diet
  - Stop Coffee/Tea/Carbonation/Artificial Sweeteners/alcohol
  - 4wks – nada/none/zip – then add back slowly
- Stop excess fluids
  - 60-80 oz of liquids per day
  - Avoid fluids for 3-4 hrs prior to bed
- Deal with constipation
  - Fiber and miralax – EVERY day
- Weight Loss
  - Every kg loss results in 3% improvement

Urinary Incontinence: Treatments – Urge Incontinence

- Medications
  - Antimuscarinic Medications (oxybutynin, tolterodine, trospium, darifenacin, fesoterodine, solifenacin)
    - Only modest improvement
    - High discontinuation rate due to side effects – dry mouth/constipation
    - Concerns about dementia, trospium may be best
  - Beta-agonists (mirabegron)
    - No generic – often needs PA
    - Rare side effects
    - Still only modest improvement
    - Not recommended in uncontrolled HTN, end-stage renal dx, or liver impairment

- Bottom Line – Rarely the long term solution
Urinary Incontinence:
Treatments – Urge Incontinence

- Botox Injections
  - Office procedure
  - Repeat every 3-6 months
  - 5% risk of retention

- PTNS (post tibial nerve stimulation)
  - Weekly office treatments x 12, then once a month maintenance
  - No significant risks, just slow to work

- Interstim (sacral nerve modulation)
  - Wire lead implanted in S3 with buttock implanted generator
  - Risks of infection and anesthesia

Urinary Incontinence:
Treatments – Stress Incontinence

- Medications
  - No good options

- Pessary
  - Can try, but limited efficacy

- If conservative options fail – surgery is next step
Urinary Incontinence:
Treatments – Stress Incontinence

- Surgery options
  - First line gold standard is a mesh mid-urethral sling
  - So what is all the mesh controversy??

- Typical recovery from mid-urethral sling
  - 1 wk off work
  - Limited lifting for 6 wks
  - Rarely need narcotics

- Misinformation is keeping many women from treatment

Urinary Incontinence:
When to refer

- Complicated history
- Failed initial interventions
- History of prior incontinence surgery
  - Wants surgery
- Elevated post void residual
Barriers to Treatment Remain

Milsom: How widespread are symptoms of an overactive bladder and how are they managed?, BJU Int, 2001
Pelvic Organ Prolapse

- 45% of women have mild to mod (above the hymen)
- 2% have advanced (past the hymen)
- 1 in 9 women will have surgery by 80yo
- 30% of those will undergo at least one additional surgery
- Can regress over time – particularly if mild

Causes of Prolapse

- Predisposing Factors
  - Vaginal delivery and parity
  - Age
  - Family history
  - Obesity
  - Chronic lung disease and smoking
  - Chronic constipation
  - Pelvic surgeries
Evaluation: Prolapse

- Does it affect quality of life?
  - Has it stopped her from doing things she used to do?
    - Can she still exercise?
- Causes discomfort – but not pain
- Does she desire any help at this time?

Evaluation: Prolapse

- History
- Physical Exam
- Postvoid residual
  - If complains of incomplete emptying
Evaluation: Prolapse
Physical Examination

- Physical Exam – measure straining
  - POPQ
  - Baden Walker – Half Way System
- Cystocele
- Rectocele
- Uterine Prolapse
- Vaginal Vault Prolapse
Evaluation: Prolapse
Physical Examination

> Baden Walker – Half Way System
  ▪ Grade 1 – normal to half way point of vagina
  ▪ Grade 2 – half way point to hymen
  ▪ Grade 3 – past hymen

Evaluation: Prolapse
Physical Examination

> POPQ
Prolapse:

Treatments

- Reassurance
- Physical Therapy
- Pessary
  > Try a tampon
- Surgery
  > One – two months no lifting and off work
  > Does not last forever
Parting Pearls

- Behavior Changes for Incontinence
  - Stop Coffee, Tea, Carbonation, Alcohol and Artificial Sweeteners
  - 60-80 oz of liquid per day
- Stop diuretics, control diabetes
- Prolapse – most does not need treatment
  - Try reassurance
  - Remember it does not cause pain