URINARY INCONTINENCE
Clinical Clerkship Lecture Series

Structure of the Female Lower Urinary Tract

Normal Micturition Cycle

Urinary Incontinence: Extent of the Problem

Urinary Incontinence - History

CASE PRESENTATION #1

Mrs. V.M.
44 year old female GTPAL 44004 referred by her family doctor with urinary incontinence.

What questions would assist you in making a diagnosis?
Urinary Incontinence - History

- UTI, dysuria, hematuria
- Nocturia
- Enuresis
- Small or large urinary losses
- Continuous loss
- Weight changes
- Prolapse symptoms
- Fecal incontinence, constipation, diarrhea

Urinary Incontinence - History

- Obstetrical history
- Menstrual history
- Menopause
- Other medical illnesses—diabetes, neurological disorders, prior pelvic surgery
- Family medical history
- Vocational history—?heavy lifting
- Medication list

Case #1 – Actual History

- Mrs. V. M.
  44 year old female GTPAL 44004 with 6 year history of progressive urinary loss with cough, laugh, sneezing and exercise. Now needs pads. Interfering with life. Normal urinary frequency. Loss of small volumes only. No recent urinary tract infections. Large babies delivered vaginally, first required forceps and had associated tears. UI worsened after last delivery. Has a sensation of pelvic pressure. Still menstruating regularly. No associated bowel symptoms or weight changes. Interested in your advice—has heard about "pelvic exercises".

Urinary Incontinence – Physical Examination

What aspects of the physical examination are important to establishing a diagnosis in this patient?

Urinary Incontinence – Physical Examination

- Vitals
- General physical exam
- Back and neurological exam – lower extremities
- Detailed pelvic exam
- Cough testing – lying, standing
- "Marshall-Bonney test” – urethral hypermobility

Case #1 – Actual Physical Findings

- Mrs. V. M.
  - normal vitals and general physical exam
  - positive cough testing
  - hypermobile anterior vaginal wall
  - MB test corrects loss
  - well estrogenized
  - anteverted, mobile uterus, no masses
Urinary Incontinence - Diagnosis

What is your “provisional” diagnosis in this patient, based upon her history and physical examination?

Provisional Diagnosis

“Genuine stress urinary incontinence”

Differential Diagnosis??

Classification of Urinary Incontinence

<table>
<thead>
<tr>
<th>Cause</th>
<th>Stress</th>
<th>Urge</th>
<th>Mixed</th>
<th>Overflow</th>
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</thead>
<tbody>
<tr>
<td>Urethral hypermobility</td>
<td>Detrusor overactivity</td>
<td>Combination of urge and stress</td>
<td>Underactive or acontractile detrusor</td>
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<tr>
<td>Intrinsic sphincter deficiency</td>
<td>Sensitive bladder</td>
<td></td>
<td>Obstruction</td>
<td></td>
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<tr>
<td>Leakage during intra-abdominal pressure</td>
<td>Involuntary leakage</td>
<td>One symptom predominant with age</td>
<td>Bladder distension</td>
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<td></td>
<td>Strong desire to void</td>
<td></td>
<td>Frequent to constant dribbling</td>
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Pathophysiology

- Urethral supports vs vesicle neck
- Fascial defects
- Interplay of muscles, fascia, nerves
- Hammock hypothesis
- Future directions: empirical vs selective treatment
Urinary Incontinence - Investigations

What investigations would you order or consider to establish a diagnosis in this patient?

• Minimum:
  - urine culture, R&M
  - post-void residual
• Comprehensive—confirmatory:
  - bloodwork (CBC, BUN, Cr, TSH, ?FSH)
  - cystometrogram
  - ? Multichannel urodynamics
  - ? cystoscopy

Urinary Incontinence - Investigations

What advice would you give this patient regarding her new diagnosis?

(Treatment Options (Case #1)

- Kegels, drill, timed toileting
- Caffeine restriction
- Judicious fluid intake
- Medications—alpha-adrenergic stimulators
- ?pessaries
- Surgery

Urinary Incontinence – Treatment Advice (Case #1)

Kegels Exercises!!

Urinary Incontinence – Treatment Options (Case #1)

Tension-free Vaginal Tape Urethral Sling
Urinary incontinence is a prevalent societal condition that can have a significant impact on a woman's quality of life.

A detailed history and physical exam are important in determining the diagnosis, etiology, and effect on activities of daily living.

Minimum investigations include urinalysis, urine culture and assessment of PVR.

Extent of treatment is guided by individual patient objectives and impact on QOL.

Behavioural modifications and Kegels are the first line of treatment in most cases of urinary incontinence. Conservative strategies should always be offered before surgical options.

Surgery is only indicated for Genuine Stress Urinary Incontinence.

Questions?