Approach to urinary incontinence in older people

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Hong Kong Continence Society
Urinary incontinence

- ICS Definition
- Complaint of any involuntary leakage of urine
LUT Changes with age

- Increased
  - Detrusor overactivity
  - Nocturnal urine output
  - BPH
  - PVR (<100 ml)
  - Bacteriuria
**LUT Changes with age**

- **Decreased**
  - Bladder contractility
  - Bladder sensation
  - Sphincter strength

- **Unchanged**
  - Bladder capacity
  - Bladder compliance
# Prevalence of urinary incontinence in the community

<table>
<thead>
<tr>
<th>Type (reference)</th>
<th>Definition:</th>
<th>Age:</th>
<th>No/Sex</th>
<th>M</th>
<th>F</th>
<th>% Incontinence</th>
<th>Amount which is severe:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheldon, 1968</td>
<td>Voiding - unconsciously or without control</td>
<td>60(F)</td>
<td>456</td>
<td>7</td>
<td>12.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brocklehurst et al. 1971</td>
<td>‘Urine comes away and you get wet’</td>
<td>65+</td>
<td>182M</td>
<td>17</td>
<td>23</td>
<td>5%M 4.5%F</td>
<td></td>
</tr>
<tr>
<td>Milne, 1972</td>
<td>4 questions</td>
<td>62+</td>
<td>215M</td>
<td>25</td>
<td>42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yarnell et al. 1979</td>
<td>Any leakage of urine in past 12 months?</td>
<td>65+</td>
<td>388</td>
<td>11</td>
<td>17</td>
<td>3% daily</td>
<td></td>
</tr>
<tr>
<td>Thomas et al. 1980</td>
<td>Involuntary leakage of urine at inappropriate places and times at least twice monthly</td>
<td>70+</td>
<td>1208</td>
<td>6.9</td>
<td>11.4</td>
<td>1.2%M 4.0%F</td>
<td></td>
</tr>
<tr>
<td>Vetta et al. 1981</td>
<td>Do you ever wet yourself if unable to get to the lavatory when you need to?</td>
<td>65+</td>
<td>1102M</td>
<td>7.3</td>
<td>18.1</td>
<td>5% daily</td>
<td></td>
</tr>
</tbody>
</table>
# Prevalence of urinary incontinence among institutionalized old people

<table>
<thead>
<tr>
<th>Type (reference)</th>
<th>Definition:</th>
<th>No/Sex</th>
<th>Percentage:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychogeriatric patients UK Mclaren et al. 1981</td>
<td>Incontinence at least once in there weeks</td>
<td>81F</td>
<td>89.3</td>
</tr>
<tr>
<td>Nursing Home USA Ouslander et al. 1982</td>
<td>Any uncontrolled leakage of urine</td>
<td>842M +F</td>
<td>50*</td>
</tr>
<tr>
<td>Geriatric patients UK Isaacs and Walkey. 1964</td>
<td>Incontinence in previous twenty four hours</td>
<td>274M 248F</td>
<td>40 46</td>
</tr>
<tr>
<td>Willington. 1969</td>
<td>Established incontinence</td>
<td>411M 489F</td>
<td>16 13</td>
</tr>
<tr>
<td>Residential Homes UK McLauishen and Wilkin. 1982</td>
<td>Excluding occasional accident and those continent with regular toileting</td>
<td>864M+F</td>
<td>17</td>
</tr>
</tbody>
</table>
### Continence Status by Sex in Institutions in Hong Kong

<table>
<thead>
<tr>
<th>Status</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continent</td>
<td>249 (78.1%)</td>
<td>331 (73.7%)</td>
<td>580 (75.5%)</td>
</tr>
<tr>
<td>Incontinent</td>
<td>70 (21.9%)</td>
<td>118 (26.3%)</td>
<td>188 (24.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>319 (100.0%)</td>
<td>449 (100.0%)</td>
<td>768 (100.0%)</td>
</tr>
</tbody>
</table>
### Prevalence of urinary incontinence by type of institution

<table>
<thead>
<tr>
<th>Type of Institution</th>
<th>Total</th>
<th>Incontinent</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Care Hospital</td>
<td>175</td>
<td>19</td>
<td>10.9</td>
</tr>
<tr>
<td>Convalescence Hosp</td>
<td>218</td>
<td>82</td>
<td>37.6</td>
</tr>
<tr>
<td>C &amp; A Home</td>
<td>375</td>
<td>87</td>
<td>23.2</td>
</tr>
</tbody>
</table>
### Urinary incontinence in different age groups and sex

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Present</th>
<th></th>
<th>Absent</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M&amp;F</td>
<td>M</td>
<td>F</td>
<td>M&amp;F</td>
</tr>
<tr>
<td>18-39 years (%)</td>
<td>25 (2.5)</td>
<td>181(13)</td>
<td>206(8.6)</td>
<td>986(97.5)</td>
<td>1213(87)</td>
<td>2198(91.4)</td>
</tr>
<tr>
<td>40-59 years (%)</td>
<td>27(5.2)</td>
<td>182(34.5)</td>
<td>209(19.9)</td>
<td>496(94.8)</td>
<td>345(65.5)</td>
<td>841(80.1)</td>
</tr>
<tr>
<td>60-74 years (%)</td>
<td>45(18.1)</td>
<td>74(36.6)</td>
<td>119(26.4)</td>
<td>204(81.9)</td>
<td>128(63.4)</td>
<td>332(73.6)</td>
</tr>
<tr>
<td>≥75 years (%)</td>
<td>18(29.5)</td>
<td>30(39.5)</td>
<td>48(35)</td>
<td>43(70.5)</td>
<td>46(60.5)</td>
<td>89(65)</td>
</tr>
<tr>
<td>All age (%)</td>
<td>115(6.2)</td>
<td>467(21.2)</td>
<td>582(14.4)</td>
<td>1729(93.8)</td>
<td>1732(78.8)</td>
<td>361(85.6)</td>
</tr>
</tbody>
</table>

(X² test and MH test for liner association: P<10⁻⁵)
Hong Kong Continence Society 1996
Causes of Urinary Incontinence in Old Age

- Transient
- Established
Transient causes

- D - Delirium
- I - Infections - UTI
- A - Atrophic vaginitis
- P - Pharmaceuticals
- P - Psychological disorders
- E - Excessive urine output
- R - Restricted mobility
- S - Stool impaction
Medications

- Diuretics
- Anticholinergics
- Tricyclic antidepressants
- Psychotropics
- Calcium channel blockers
- Antiparkinsonian drugs
Established causes

- Urge incontinence
- Stress incontinence
- Overflow incontinence
- Detrusor hyperreflexia with impaired bladder contractility
- Reflex incontinence
- Functional incontinence
- Iatrogenic incontinence
Types of bladder dysfunction

- Failure to store
  - DI
  - SI
- Failure to empty
  - OI
- Failure to store and empty
  - Mixed
Assessment

- Urinary symptoms - onset, frequency, duration, loss of volume, timing of UI, precipitants, voiding problems, dysuria, nocturia, urgency, fluid intake, urine loss on straining, haematuria
- Past medical history - diabetes, recurrent urinary tract infection, pelvic surgery, childbirth, neurological problems, constipation, CCF
Assessment

- Drug history - diuretics, betablockers, anticholinergics, psychotropics, alpha-blockers, calcium antagonists
- Social history - alcohol excess, mobility, location of bathroom
Examination

- Abdominal - palpate bladder, any mass
- Rectal - anal tone, sensation, faecal impaction, mass, tenderness, prostate size, rectocele
- Neurological - cognitive function, tremor, rigidity, gait, focal signs, mood, motivation, affect
- Genital - uterine prolapse, cystocele, atrophic vaginitis, pelvic muscle weakness
Investigations

- Frequency volume chart
- Urine culture
- Post void residual urine
- Stress test in female
- Flowmetry
- Cystometry
- Complex urodynamics
- Cystoscopy
Treatment

- Urge incontinence
  - behavioural treatment
  - biofeedback
  - drugs
  - electrical stimulation
  - surgery
Treatment

 challenger DHIC
  – behavioural treatment
  – bladder training
  – drugs
Treatment

- Stress incontinence
  - behavioural treatment
  - pelvic floor exercise
  - biofeedback
  - drugs
  - surgery
Treatment

- Overflow incontinence
  - avoid offending drug
  - bowel regulation
  - surgery
  - drugs - alpha blockers
  - intermittent catheterization
**Behavioural therapies**

- Bladder retraining
  - timed voiding / prompted voiding
- Habit training
- Pelvic Floor Exercise
- Electrical stimulation
Drug Therapies

- Anticholinergics
  - Oxybutynin
  - Tolterodine
  - Newer antimuscarinics

- Tricyclic antidepressants

- Intravesical injections
  - Botulium toxin
Patient Indications for Sacral Nerve Stimulation (SNS)

- Overactive Bladder
  - Urge/ frequency
  - Urge Incontinence
- Urinary Retention in the absence of outlet Obstruction
- Chronic Pelvic Pain Syndromes
  - Painful bladder syndrome
  - Prostatodynia
Management of Urinary Incontinence in Frail Older Persons

**Clinical Assessment**
- Delirium
- Infection
- Atrophic vaginitis
- Pharmaceuticals
- Psychological
- Excess urine output
- Reduced mobility
- Stool impaction and other factors

**Clinical Diagnosis**
*These diagnoses may overlap in various combinations, e.g., MIXED UI, DHIC (see text)*

**Initial Management**
(If Mixed UI, initially treat predominant symptoms)

**Ongoing Management and Reassessment**

**History/Symptom/Assessment**
- Assess, treat and reassess potentially treatable conditions, including relevant comorbidities and activities of daily living (ADLs)
- Assess QoL, desire for Rx, goals of Rx, pt & caregiver preferences
- Targeted physical exam incl cognition, mobility, neurological
- Urinalysis + MSU
- Bladder diary
- Cough test and PVR (If feasible and if it will change management)

**Incontinence**
- Urge UI *
  - Lifestyle interventions
  - Behavioral therapies
  - Consider cautious addition and trial of antimuscarinic drugs
  - Topical estrogens
- Significant PVR *
  - Treat constipation
  - Review medications
  - Double voiding
  - If PVR >500: catheter decompression then reassess
- Stress UI *
  - Lifestyle interventions
  - Physical therapies
  - Topical estrogens (women)

Continue conservative methods ± Dependent continence ± Contained continence

If fails, consider need for specialist assessment

UI associated with:
- Pain
- Haematuria
- Recurrent symptomatic UTI
- Pelvic mass
- Pelvic irradiation
- Pelvic/LUT surgery
- Major prolapse
Thank you