MOOC10 Demand on you Care: Incontinence

Chapter 2: Urinary Incontinence

Case story

An 80-year-old woman with mild dementia was admitted to the medical ward because of high-grade fever. She had confusion and unable to recognize that she was in the hospital. She was yelling and wanted to go home. Health care worker gave her the incontinence pad because she wet her bed all the night.

Reflection

If you were the patient, how would you like the health care worker to take care of you?

- **Go to toilet or use a diaper?**

If you were the health care worker, what should be your first consideration?

- **Put on a diaper?**
- **Bring the patient to toilet?**
- **Any assessment can be performed?**
- **What kind of urinary incontinence does she suffer from?**
- **What are the interventions you would suggest?**
- **(You may find the answers after studying this Chapter.)**

Let's start to understand urinary incontinence!

Types of urinary incontinence

- Transient incontinence
- Persistence incontinence

Transient incontinence

- Temporary, reversible
- Caused by an illness or a specific medical condition that is short-lived and quickly remedied by appropriate treatment of the condition and a disappearance of symptoms.

Causes:

DIPPERS

Delirium	In the delirious patient, incontinence is usually an associated symptom that will abate with proper diagnosis and treatment of the underlying cause of confusion.
Infection	Dysuria and urgency from symptomatic infection may defeat the older adult's ability to reach the toilet in time.
Pharmaceutic	Medication that causes incontinence: • **Sedative hypnotics** may cause confusion and incontinence. • **Diuretics** lead to polyuria, frequency and urgency. • **Anticholinergic agents** induce urinary retention with associated urinary frequency and overflow incontinence. • **Alpha-adrenergic agents** can cause stress incontinence and urinary retention. • **Calcium channel blockers** can reduce smooth muscle contractility in the bladder and cause urinary retention and overflow incontinence.
Psychological disorder	Severe depression may be associated with incontinence.
Excessive urine production	Excess intake, endocrine conditions that induce diuresis cause polyuria and can lead to incontinence.
Restricted mobility	Limited mobility is an aggravating or precipitating cause of incontinence.
Stool impaction	Patients with stool impaction present with either urgency incontinence or overflow incontinence and may have faecal incontinence as well.

Persistent incontinence

- Stress incontinence
- Urge incontinence (Overactive bladder)
- Overflow incontinence (Incontinence associated with incomplete bladder emptying)
- Functional incontinence
- Mixed Incontinence

Signs & symptoms:

- leaking of urine when coughing, sneezing and physical activities that increased the intra-abdominal pressure
- may be infrequent
- involves very small amounts of urine
- common in older women
- degree of stress incontinence: ranges from mild to severe

Causes:

- Sphincter weakness due to:
  - Lack of oestrogen → weakened supporting tissues and consequent hypermobility of the bladder outlet & urethra
  - Vaginal delivery will damage the pelvic floor muscle during delivery
  - Chronic cough will weaken the pelvic floor muscle
  - Chronic straining at stool
  - Obesity
  - Radical prostatectomy (surgical removal of the whole prostate gland for prostate cancer)

Management:

- Pelvic Floor Exercise
  - To improve the tone of the muscles in the pelvic floor which provide support to the urethra and bladder neck.
  - First line treatment for stress incontinence and combined stress and urge incontinence.
  - Useful for men after prostatectomy operation, where a degree of stress incontinence occur because of damage to the urethral sphincter mechanism.
  - Should be practiced regularly and daily. **Apply when need!**

- Biofeedback Therapy
  - Use of instrumentation to mirror psycho physiologic process that the individual is not normally aware of and that may be controlled voluntarily.
  - Help regain control over the muscles in the bladder and urethra.
  - Can be helpful when learning pelvic muscle exercises.

- Surgery (TVT/TOT)
  - Tension free vaginal tape is common and effective surgery nowadays.
  - Aims to support the mid-urethra and increase urethral resistance.

Signs & symptoms:

- Leakage arising from the ability to suppress an urgent desire to urinate
- Associated with large volumes of urine loss
- Symptoms of an overactive bladder
    - frequent urination (voiding every ≤ 2 hours)
    - urgency
    - nocturia (≥2 voids during usual sleeping hours)

Causes:

- Poor storage due to:
    - Detrusor overactivity
    - Idiopathic (didn't find the actual causes)
    - Bladder outlet obstruction (enlarge prostate will irritate the bladder contraction)
    - Bladder disease
    - Neurogenic (poor DM control / stroke)

Management:

- Pelvic floor exercise
- Bladder training

    - To restore the older adult with frequency, urgency and/or urgency incontinence to a more normal pattern of micturition.

- Caffeine limitation
    - To reduce irritant drinks will decrease the frequency and urgency of urination.

- Pharmacotherapy (anticholinergics)
    - To inhibit bladder contraction.
    - Common side effects:
        - dry mouth
        - blurring of vision
        - incomplete emptying of bladder
        - constipation
        - may also impair older adult's cognitive function

      ***Should be used with caution!**

- Surgery (Botox injection)
    - Inject Botox into the muscle of the bladder to destroy the nerve ending to decrease bladder contraction
    - Need to repeat injection to maintain the effect

Overflow incontinence (Incontinence associated with incomplete bladder emptying)

- An over-distended bladder to a point where the elevated intravesical pressure overcomes the urethral resistance but in the absence of detrusor activity.
- Post voiding residual urine volume ≥ 200 mL

Causes:

- Bladder outlet obstruction
  - Lower urinary tract symptomatology (LUTS)
  - Enlarging Prostate, i.e. Benign prostatic hyperplasia (BPH) in men
  - Urethral stenosis in women
- Acontractile bladder e.g. Diabetic autoneuropathy

Management:

- Relieve obstruction
  - Perform TURP to remove bladder outlet obstruction
  - Dilatation is used to widen the urethral stenosis

- Treat/avoid constipation
  - Stool impaction→induce incomplete emptying of bladder.

- Review of medications
  - To reduce bladder contraction.

- Consider catheterization (Intermittent/indwelling)
  - Intermittent catheterization
    - is a feasible option in the management of poor emptying.
    - can be taught to the caregiver if older adult is invalid or has poor manual dexterity.
  - Indwelling catheterization
    - are always considered as a last resort in continence management.

Functional incontinence

Causes:

- Urinary leakage caused by:
  <u>Functional factors</u>
  - Failure to recognize the need to use the toilet (cognitive impairment)
  - Failure to remember to use the toilet (dementia)
  - Lack of motivation to use the toilet (depression)
  - Decreased ability to use the toilet (physical and mobility limitation, e.g. stroke or frailty)

Environmental factors

- Poor access to toilet
  When the toilet is too far away or has obstacles e.g. steps.

- Lack of privacy
  When the older adult "being forced" to use bedpan or bedside commode with only a curtain to separate them from the view of others.

- Unconducive toilet facilities
  Badly maintained toilets with foul odour or dirty seats discourages the older adult to "hang on", this may lead to retention or incontinence.

- Negative attitudes of caregivers
  If incontinence is accepted as part of aging and normal in the older adults, it becomes ignored. Minimal effort will be given to promote continence.

- Unfamiliar environment
  Cognitively impaired older adults often become more confused with changes in environment and usually fail to locate the toilet even if they have been shown the way.

- Environmental factors are **NOT** associated with any pathologic condition of urinary system or voiding mechanism.

Management:

- Prompted voiding
  - a toileting program that combines scheduled voiding with "prompting" from a caregiver
  - to improve bladder control for people with or without dementia using verbal prompts and positive reinforcement
  - appropriate for older adults with all types of UI and in individuals who may have impaired cognitive function.
  - a local study: https://www.sciencedaily.com/releases/2014/01/140106132955.htm

- Timed voiding
  - a fixed time interval toileting assistance program that has been promoted for the management of people with urinary incontinence who cannot participate in independent toileting.
  - suggest to be practiced in residential care settings, especially for older adults with cognitive impairment.

Mixed incontinence

- A combination of stress and urge incontinence

Assessment of urinary incontinence

It's not uncommon to see a patient who was admitted to a hospital would be put on a diaper to solve the problem of incontinence. However, should we ask the question 'Does the patient has transient or persistence incontinence before giving him/her a diaper?'

A continence assessment is necessary to understand the cause and make any decision on managing the problem of incontinence.

Assessment includes:

- History taking
- Physical examination
- Diagnosis
- Investigations

History taking

- Past medical history
  - medical conditions that may co-exist with or contribute to incontinence.

- Past surgical history
  - any post-operative complications from urethral dilation, TURP, bladder neck surgery or other urological history~~?~~

- Past obstetric history
  - no. of pregnancies, children's birth weights, type of deliveries, menstrual status
  - women are particularly vulnerable to stress incontinence ∵ pelvic floor damage during child birth & post-menopausal hormone decline.

- Past gynaecological history
  - e.g. abdominal hysterectomy, vaginal hysterectomy, pelvic floor repair

- Current medication
  - For details, refers to **DIPPERS: Pharmaceutic**

- Onset of incontinence

- Common features on urinary frequency and incontinence *(pls refer to Chapter 1)*

- Precipitating factor (any leaking of urine at below situations?)
  - e.g. coughing, laughing, lifting, urgency

- Bladder awareness

- Incontinence aids (use aids for absorbing urine?)

- Bowel symptoms
  - Frequency, normal bowel habits, character (hard, palate, soft, loose, watery?), constipation, PR bleeding (any bleeding after bowel opening?)

- Amount and type of fluid intake
  - Be aware of the bladder irritating beverages e.g. alcohol, coffee, Chinese tea and cold drinks
  - Should **NOT** restrict fluid intake to avoid incontinence

- Psychological status
  - Any impaired mental function e.g. depressed, stressed or experiencing family or social problem

- Functional status
  - Examine and determine older adult's mobility, manual dexterity and eyesight.
  - Restricted mobility may precipitate incontinence by limiting the ability to reach the toilet in time.
  - Manual dexterity is required for undressing upon reaching the toilet.

- Attitude towards incontinence
  - Attitude towards incontinence present a major problem in tackling it.
  - Passive acceptance of incontinence as an inevitable part of aging → affect compliance to the treatment plan.

Physical examination

- Palpation of the lower abdomen to reveal a palpable bladder.

- Vaginal examination
  - Examine the vagina to detect:
    - vaginal discharge
    - atrophic vaginitis/ urethritis
    - prolapse such as cystocele, rectocele & uterine prolapse
  - Examine the tone of pelvic floor muscles and the older adult's ability to perform slow and fast twitch ability.

- Rectal examination
  - Observe for skin tags or haemorrhoids that might make defecation painful. A digital rectal examination is necessary to check for impacted stool, enlarged prostate or a lax anal sphincter.

Investigations

- Volume chart/ Bladder diary
  - the single most useful tool in assessing the older adult's level of incontinence.
  - acts as a record to be interpreted with the other findings of the continence assessment and diagnosis and to plan care.

- International Prostate Symptom Score (IPSS)
  - It has 7 questions and provides a score ranging from 0-35. (https://www.hkua.org/IPSS/)
  - Identify the voiding or storage problems and from the total score can reflect the severity of lower urinary tract symptom.

- International Consultation on Incontinence Questionnaire Urinary Incontinence Short Form (ICIQ-UI short form)
  - It has 4 questions and provides a score range from 0-21. (https://iciq.net/iciq-ui-sf)
  - With the higher score indicating greater severity of symptom

- Urinalysis and culture
  - collect mid-stream urine for culture and microscopy

- Flow rate
  - It is a cheap, simple and non-invasive test.
  - Procedure: voids into a funnel attached to a transducer that converts the velocity of urine flow into a graphic curve.
  - Identify abnormal voiding pattern from the flow curve.

- Post voiding residual urine (PVRU)
  - It is done after voiding and is a reflection of bladder contractility.
  - Over 100ml is significant in older adults.

- Blood test
  - Renal Function Test (RFT): to detect any kidney problems and show how well the kidneys are working.
  - Prostate Specific Antigen (PSA): if high PSA showed abnormal prostate gland, need to exclude prostate cancer by further investigation.
- Abdominal X-ray
  - To rule out faecal impaction.

- Urodynamic study (UD)
  - If the causes cannot be confirmed from clinical sign and symptom, then perform UD.

- Cystoscopy
  - Look inside the urethra and bladder by the instrument.

Importance of early recognition of common problems

- Older adults often have more than one factor contributing to their incontinence.
- Be constantly alert for the common underlying problems which can cause urinary incontinence.
- Identify the signs and symptoms of UTI, confusion, chronic cough, impaired mobility, impaired manual dexterity, an enlarged prostate, the side effects of drugs and the existence of neurological disorders.
- Get support for early treatment.

- End of Chapter 2 -
