

## Urinary Retention

### Causes of urinary retention

- Acute retention
  - Prostate pathology – benign or malignant
    - Commonest cause in men is benign prostatic hypertrophy (BPH)
  - Infection including STI
  - Phimosis, circumcision
  - Congenital urethral valves
  - Clot retention from bleeding source
  - Urethral strictures
  - Constipation
  - Post-operative
  - Neurological
    - Cauda equine syndrome, any spinal injury above level of bladder innervation
  - Medications
    - Anticholinergic, opiate, antihistamines, cold/flu remedies medication
  - Alcohol
- Chronic retention
  - Prostate pathology (as above)
  - Pelvic mass
    - Benign or malignant
  - Diabetes
  - Neurological
    - MS or other chronic upper motor neurone pathology

### History taking in urinary retention

- Presenting complaint
  - Acute retention
    - Rapid onset suprapubic pain (if painless and acute suspect CNS pathology)
    - Inability to pass urine
    - Possible bleeding
    - Symptoms in keeping with aetiology
      - e.g. recent dysuria, recent spinal trauma
  - Chronic
    - May be as above but more likely:
    - May be asymptomatic
    - Low flow micturition
    - Nocturnal incontinence
    - Palpable painless bladder
    - Clinical signs of chronic renal failure
- History of presenting complaint
  - UTI symptoms
  - Timing and speed of symptoms
  - Pain site and severity
  - Desire to void
  - Sensation of incomplete voiding
  - Previous episodes of retention
  - Recent surgery
  - Bowels opening

- Past medical history
  - Diabetes
  - Known prostate disease
  - Urinary tract tumour/any cancer
  - Neurological disease e.g. disc prolapse, MS etc
  - Known anatomical distortion
  - PMHx will also help determine fitness for future surgery
- Medications
  - Anticholinergics e.g. oxybutynin
  - TCAs
  - Opiates
  - Antihistamines
  - Cold remedies
  - Anticoagulants if bleeding
- Allergies
- Social history
  - Smoking
  - Risk factors for malignancy

#### **Focused examination in urinary retention**

- ABCDE approach to ensure patient safe
- Abdominal examination
  - Is the bladder either visible or percussible
    - A percussible bladder has at least 150mls in it
  - Is the bladder palpable?
    - A palpable bladder has over 200mls in it
  - Any other abdominal masses palpable?
  - PR exam
    - Prostate size and prostate texture (smooth = BPH, craggy = tumour)?
    - Anal tone?
    - Faecal impaction?
- Focused neurological examination
  - Looking for potential spinal lesion, MS (a rare primary presenting complaint in MS), other neurological condition that can be associated with dysautonomia e.g. Parkinson's

#### **Initial investigation of urinary retention**

- Urine dip and MSU
- U&Es, FBC and clotting (G&S if frank haematuria)
- Blood glucose
- Consider PSA if suspicious prostate
- Post-catheter
  - Measure residual volume of bladder
  - Measure urinary volume removed in first 10-15 minutes to determine true acute retention versus "acute on chronic" retention
  - Residual volumes of greater than one litre make patients more likely to fail a trial without catheter (TWOC) and increase the chances of have recurrent retention

#### **Further investigation of urinary retention**

- Renal tract USS if very high residual or abnormal renal function on bloods

- CT if space occupying lesion suspected
- Cystoscopy if urethral/prostate disease suspected
- Urodynamic studies if bladder dysfunction suspected

### Initial management of acute urinary retention

- **Acute retention**
  - Catheterise patient
    - Aseptic technique
    - Consider stat dose of gentamicin (80mg IM if no renal failure) if high risk for UTI
  - Post-catheterisation patients may be admitted if:
    - Clot retention
    - Complicated renal colic
    - Frank haematuria
    - Social reasons or lots of co-morbidities
    - Greater than two litres of residual urine
  - Post-catheterisation patients may be sent home if they have none of the issues above
  - On discharge
    - Urgent follow-up if suspected malignancy, mild haematuria, very abnormal U&Es
    - Non-urgent (usually 2-4 weeks) if uncomplicated UTI, mild prostate pathology.
    - Academic debate regarding how long to leave catheter in: some advocate immediate removal once drained, others leave in for up to 2 weeks before attempting trial without catheter (TWOC)
    - In men, give Tamsulosin (400mcgs PO) as a stat dose prior to TWOC. Consider starting long term alpha blockers after discussion with urology.
    - Suprapubic catheterisation should be discussed with urology if catheterisation fails.
  - Treat the cause
    - As above, tamsulosin for BPH
    - Antibiotics for UTI
      - Trimethoprim or nitrofurantoin as per local trust policy
    - Treatment of constipation
      - Movicol 3 sachets twice per day, increased dietary fibre
    - More complex causes will need discussion with relevant team
- **Chronic retention**
  - Less urgency
  - Catheterise if renal dysfunction or hydronephrosis: be wary of over diuresis requiring intravascular support and monitor electrolytes
  - Management is very specific to cause but tend to avoid TWOC until definitive treatment is available due to poor outcome of TWOC in chronic retention.

### References

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- Selius BA, Subedi R. Urinary retention in adults: diagnosis and initial management. *Am Fam Physician* 2008; 77: 643-650.
- McNeill, S. A., et al. "Alfuzosin 10 mg once daily in the management of acute urinary retention: results of a double-blind placebo-controlled study." *Urology* 65.1 (2005): 83-89.)