ACUTE URINARY RETENTION

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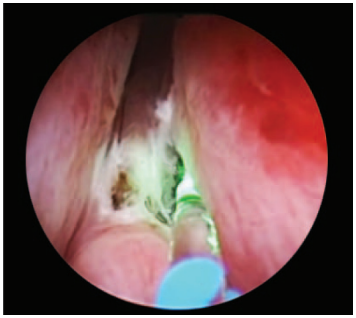
Acute urinary retention is the sudden and often painful inability to void. It is a common medical emergency with an incidence of 5 cases per 1,000 men per year in men over age 40 and often presents in general practice. Prostatic obstruction from BPH is partly mechanical and partly muscular.

A major distinction is drawn between "spontaneous" retention and that "precipitated" by other events for instance in a 45 year old after spinal anaesthesia for haemorrhoidectomy.

Aetiology



Obstructive – BPH mainly; rarely prostate cancer or prostatitis. Clot retention, urethral strictures or trauma, bladder stones or masses. Severe pelvic prolapse or pelvic masses can cause retention in women. Faecal impaction in the frail elderly.

Neurological – CVA, diabetic neuropathy, spinal cord compression.

Pharmacologic – anticholinergics, antidepressants, antihistamines and antipsychotics relax the bladder versus alpha agonists which increase bladder neck tone. Alcohol.

Clinical approach to Acute Retention

- First of all pass a catheter – 16 Fr unless you suspect clot retention – then try a 20. If it won't pass easily suspect a stricture and refer on to urology for instrumented urethral or suprapubic catheterization.
- Record how much drains in the first 5 minutes while you take a history. Send a CSU.
- DON'T TAKE IT OUT (unless the diagnois was wrong because < 400 ml drained) as IN– OUT catheterization often fails so it is best to allow a few days for bladder recovery from stretch.
- Clamping and releasing is of no value.
- Risk of UTI is low if the catheter is removed by day 3.
- Pre-existing prostatic symptoms or prior episodes of retention or infection?
- Previous urological surgery or catheterization for other reasons?
- Precipitating factors – medications, constipation?
- Neurological symptoms?
- Examination should confirm bladder decompression, otherwise suspect a pelvic mass.
- Is the prostate enlarged or clinically malignant? Is rectal tone and perineal sensation normal?
- Start an alpha blocker – Tamsulosin doesn't require dose titration so loading is faster than with the second generation drugs Doxazosin and Terazosin.
- Urinary tract ultrasound (less important in younger men with "precipitated" retention)
- Voiding trial after 3 days in the absence of factors predictive of failure.
- Men over 70, severe pre-existing symptoms, large prostate > 50 gm on ultrasound, drained volumes >1000 ml and those experiencing "spontaneous" retention are more likely to fail.

Overall 50% of men will have a successful voiding trial and use of alpha blockers increase the chance to over 60%. Precipitated cases are more likely to have a successful voiding trial than spontaneous retention. Alpha blockers should be continued in those with risk factors.

A second voiding trial if the first fails is much less likely to succeed, only 30% will avoid recatheterisation and those who fail will probably need surgery.

Even in those who manage to void, assessment of peak flow rates and ultrasound measurement of post void residual urine and prostatic volume can predict those at risk of further problems so urological referral is worthwhile and 25% will proceed with elective prostatectomy.

Surgical Management

The traditional TURP is still a valid option for men with refractory retention but even in the modern era there is still a 0.7% mortality rate in this frail elderly population. Laser prostatectomy techniques are just as effective, with substantially less risk of bleeding or reoperation.

Thulium laser prostatectomy from Europe is now available in New Zealand with less risk of bleeding than the older lower powered Holmium technology.

Further Reading

Management of acute urinary retention: a worldwide survey of 6074 men with BPH. JM Fitzpatrick et al. *British Journal of Urology International 2011*; 109:88–95.

Complications and early postoperative outcome in 1080 patients after Thulium vapoenucleation of the prostate: results at a single institution. AJ Gross et al. *European Urology 2013*; 63: 859–867

To see the Thulium Laser procedure follow this link
https://youtu.be/W1Bu111MJGk