

Adult Nursing II

Benign Prostatic Hyperplasia

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Benign Prostatic Hyperplasia: Description

- A very common condition in older men
- Benign hyperplasia (enlargement) is thought to be under hormonal influence (testosterone)
- The prostate extends upwards into the bladder gradually impeding and obstructing urine flow

Benign Prostatic Hyperplasia: Pathophysiology

- Hyperplasia gradually obstructs urine flow from the bladder → **acute** retention (emergency) or **partial** retention of urine
- Results in:
- A residual pool of urine in the bladder following urination
- Ureteric reflux → hydro-ureter and hydronephrosis (a cause of renal failure)
- Stasis and infection (UTI): pyelonephritis
- Reduced bladder tone and continence

Benign Prostatic Hyperplasia: Clinical Manifestations

- Frequency of urination
- Nocturia
- Urgency
- Hesitancy
- Straining to void → occasional haematuria
- Poor stream and dribbling of urine
- Sense that bladder not emptied
- Abdominal/ suprapubic distension

Acute Retention of Urine

- *Patients are often admitted as an emergency with total urinary obstruction

Acute Retention of Urine: Clinical Manifestations

- Acute severe supra-pubic pain and distension
- Inability to pass urine
- Nausea (maybe vomiting)
- Neurogenic shock (related to pain)
- (Pyrexia and rigors if urinary tract infection and septicaemia → septic shock)

Benign Prostatic Hyperplasia: Diagnosis

- Rectal digital examination: a large soft rubbery non-tender prostate palpated (distinguish from hard, stone-like malignant prostate)
- Needle biopsy
- Prostate Specific Antigen (PSA)
- Residual urine (and urine culture)
- Renal function tests
- Creatinine clearance

Benign Prostatic Hyperplasia: Management

- Medical/ mechanical management (mild)
- Emergency treatment (acute urinary retention)
- Surgery

Benign Prostatic Hyperplasia: Medical/ Mechanical Management

- May be used in mild cases or if surgery contra-indicated
- Smooth muscle relaxant (Terazosin) affects the bladder neck
- Dilatation with a balloon
- Laser resection under ultrasound control
- Permanent urinary catheter (urethral or supra-pubic) under antibiotic cover. Leg bag can be used

Acute Urinary Retention: Emergency Treatment

- Analgesia: Morphine (partly given IV) to relieve pain and avoid shock
- IV line/ antibiotics in case of shock
- Immediate catheterisation by an experienced urologist using a silastic firm catheter to avoid trauma to urethra and maintain patency
- Urine is released gradually to avoid shock
- Urine sample for culture

Benign Prostatic Hyperplasia: Surgery

- Surgery is the treatment of preference and is important in order to avoid:
- Renal damage from hydronephrosis
- Pyelonephritis, septicaemia and renal damage from urinary stasis and infection

Benign Prostatic Hyperplasia: Surgical Procedures

- Trans-urethral resection of the prostate gland (TURP): cutting via cystoscope
- Supra-pubic resection: via abdominal incision and through the bladder
- Retro-pubic resection: via abdominal incision behind the bladder (larger gland). More prone to infection in retropubic space
- All hyperplastic tissue is removed leaving only the prostate capsule (may re-grow)

Prostatectomy:

Pre-operative Management

- *Patients are mostly elderly. Often operation performed under spinal anaesthetic.
Thorough preparation:
- General health assessment
- Chest physio
- Anti-embolism stockings
- Blood coagulation studies (the prostate gland is very vascular)
- CBC (Hb), blood group and cross-match
- Correct any dehydration. Promote nutrition

Prostatectomy: Post-operative Management

- ICU
- IVI and blood transfusion as required
- A 3-way Foley catheter is used for continuous irrigation of the bladder with saline to flush away clots
- IV antibiotics (including Gentamycin to prevent gram negative shock) (also given when catheter removed)
- Physio
- Anti-embolism stockings/ leg exercises

Prostatectomy: Post-surgical Complications

- Haemorrhage: prostate is very vascular
- Clot retention: clots post-operatively may block the urinary catheter → obstruction:
- Risks neurogenic shock; also stretches the prostatic bed → further bleeding
- DVT/ pulmonary embolism: (immobility and risk of ↑ blood viscosity)
- Pneumonia
- Urinary infection → septicaemia (shock)

Prostate Surgery: Post-op Nursing Responsibilities

- ICU; IVI and blood transfusion as required
- Careful monitoring of vital signs
- Accurate intake/ output including irrigation
- Monitor urine colour (for ↑ haemorrhage)
- Monitor drainage: “milk” clots to encourage urine flow. Note supra-pubic distension, pain, restlessness. Bladder washout if required (analgesia important in this case)
- Encourage ↑ oral fluids. Physio. Antibiotics