22 Urology

RENAL COLIC

Passage Rate		***Complications***
4mm	90%	- AKI
5mm	***80%***	- Infection
5-8mm	15%	- Haemorrhage
>8mm	05%	

Types

- ***Ca Oxalate (70%)***	***Radio-opaque***
- Urate (10%)	Radiolucent
- $CaPO_4$ (10%)&	Radio-opaque
- Cystine (1%)	***High risk AKI***, RF < 30y, staghorn

Management

- Analgesia: ***paracetamol, NSAIDs, opiates***
- ***Tamulosin*** 0.4mg OD (4wk pass < 10mm 3-40%)
- IV fluids

Admission Criteria

- Analgesia ++	- Single/transplanted kidney
- Await CT KUB	- ***> 6mm, recurrent or bilateral***
- Infected	- Significant AKI

HAEMATURIA

Causes

- Stone	- Infection incl ***schistosomiasis***
- Cancer	- GN
- BPH	- Trauma

Management

- 23Fr 3-way washout 1-2L/hr
- Treat cause

URINARY RETENTION

Causes

- Infection: UTI, herpes, other painful genital disease
- BPH
- Drugs eg ***opiates, anticholinergics***
- Spinal cord lesion/trauma
- Psychogenic
- Clot retention, tumour, urethral trauma
- Paraphimosis, Priapism

ACUTE SCROTUM

DDx

- Testicular torsion	- Tumour
- Appendiceal torsion	- Idiopathic oedema
- Epididimo-orchitis	- Fournier's gangrene
- Trauma/rupture	- Hydrocele
- Hernia	- Haematocele
- HSP	

Testicular Torsion

- Peak age 1-16yo, rare > 30yo
- Time is tissue
  - < 6hrs 80-90% salvage
  - 10-24hrs 20% salvage
  - > 24hrs 0% salvage
- ED de-torsion: ***'open book'*** ie lateral
- Still needs OT for orchidopexy

PARA/PHIMOSIS

- Dorsal penile block can help
- Topical analgesia, oral/parenteral analgesia
- ***Manual reduction***
  - Prep with ice
  - Compress glans
  - Thumb on glans, index on foreskin, slowly retract
- ***Puncture technique:*** needle puncture prepuce
- ***Granular sugar***
- ***Surgery:*** emergency dorsal split

PRIAPISM

erection > 4hrs in absence of stimulation

Types

1. ***Low flow*** (Ischaemic): common, ***painful***, glans sparing
2. High flow (Non-ischaemic): ***painless***, glans hard
3. Recurrent

Causes (low-flow)

- ***Idiopathic 60%***	***Rx***
- ***Sickle cell disease***	- ***Sildenafil***
(most common)	- Antipsychotics, SSRIs
- Cancer eg Leuk	- ***Cocaine***, ***amphetamine***
- Spinal cord lesion	- Blood thinning
- Thalassaemia	

Causes (high-flow)

- arteriolar-sinusoidal fistula
- trauma

Complications

- Impotence 50% @ 24hrs
- Necrosis, Gangrene
- Cosmetic, erectile dysfunction

Cavernosal Blood gas

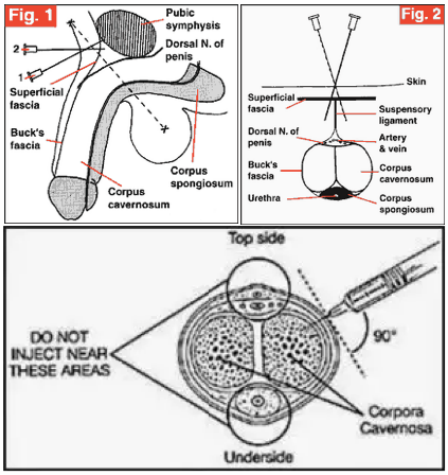
Source	pH	pO_2	pCO_2
Normal	7.35	40	50
Low flow	< 7.25	< 30	> 60
High flow	7.4	> 90	< 40

Mx (Low flow)

- Analgesia, urology, underlying cause
- Dorsal penile block
- 21G needle ***aspirate*** 20-30ml corpora
- Inject 1-2ml 1:100,000 ***adrenaline***
- Theatre
- ***Non-isch*** treated with ice packs & compression

Dorsal Penile Block

- sterile technique
- landmark: under pubic symphysis
  either side of suspensory ligament



CATHETER INSERTION

Indications

- Retention	- Post-op
- Measure UO	- Incontinence
- Clot retention/irrigation	- Urine spec
- Bed bound	

Contraindications

- Suspected urethral injury	- Known stricture
- Post-op urology	- Pt refusal

Indwelling Catheter

Types

- ***Foley***: silastic or rubber 14-16Fr
- PVC:
  - ***Tiemann*** (Coude-tipped) - bent at end
  - ***Nellertons*** - same as folly but PVC
  - ***Whistle-tip*** - open ended for large debris
- ***3-way***: 22Fr

Difficult

- Phimosis	- Meatal stricture
- Prostate	- Urethral structure

Complications

- Pain
- Failure
- Infection
- Malposition
- Paraphimosis
- Bladder irritation
- Concretion formation
- Post deco haemorraghe
- Balloon inflation in urethra
- Trauma incl false passage, stricture, haemorraghe

Suprapubic Catheter

Contraindications

- ***Unable to palpate or visualise (USS) bladder***
- Pt refusal
- Coagulopathy
- Prior abdo/pelvic surgery
- Pelvic ca ± XRT

Technique

- Consent, Sterile technique
- Site: ***midline + 4cm above pubic symphysis***
- Do not change for 4 weeks

23 Vascular

DISSECTION

2-3x more common than AAA (30% mortality before hospital)

Risk factors

- Male (65%)	- Anatomical var	- Atherosclerosis
- Old (>63)	- Aortitis etc	- CT disorders eg Marfan
- HTN	- Pregnancy	- Iatrogenic (cath)

- Catecholamine surge eg ***cocaine***
- Congenital eg coarctation
- Valvular: AS, Bicuspid valve

Clinical Findings

- ***AR*** (common)	- Heart failure
- ↑ or ↓ BP	- Haemothorax

Complications

- Spread	- Tamponade
- Aneurysm	- Free wall rupture (esp pleural/mediast)
- AR	- Infarct

Classification

- Stanford Type A = proximal
  younger, just after AV ∴ if defect = ↑ risk
- Stanford Type B = distal (past L SC)
  just after lig arteriosum

Investigations

- D-dimer 95% sens, 41% spec
- Cxr findings
  - Mediastinum
    - Obscured
      - widened
      - obliterated aortic notch
      - opacification of aorto-pulmonary window
      - paratracheal stripe R > 4mm, L > 5mm
    - Displaced
      - mediastinal structures
      - paraphernalia eg NGT, ETT
      - depression L main bronchus
  - Lung fields
    - apical cap
    - pleural effusion

Management

- Airway, breathing
- 1st line HR: ***Esmolol*** 0.5mg/kg, 0.02 to 0.2mg/kg/min
  or ***Propranolol*** 0.5-1mg
- 2nd line BP: ***GTN*** 50mg/50ml 0-3ml/hr or
  SNP 0.25-10 mcg/kg/hr
- Surgery: ***Type A***, Type B if perf

AAA

- 2% pop
- Infra-renal most common, juxta-renal least common
- See ***USS section*** for features

Risk of Rupture

Diameter	Risk
<3cm	Normal
3-4cm	2%
5cm	***risk of rupture > risk of surgery***
5-6cm	1-10%
> 7cm	30-50%

Causes

- Atherosclerosis (90%)	- Inflammatory eg aortitis
- CT disorder (5%)	- Mycotic (5%)
- Age	

Management

- GOC
- Permissive hypotension SBP ~ 80mmHg
- MTP
- Surgery

Complications

- Fistula: enteric or venous	- Infected aneurysm
- Endoleaks	- Acute occlusion → infarct
- False aneurysm	
- Post wall rupture (67%)	

INTRA-ARTERIAL DRUG INJECTION

Management

- Supportive Mx
- Observe for prox spread
- Elevate limb
- Analgesia
- If iatrogenic leave cannula in & slow fluids
- ***Heparin***
- ***Phentolamine*** if vasospasm ± CCB (***nicardipine***)
- Urgent surgical referral
- Anaesth referral for ***Sympth plexus block***