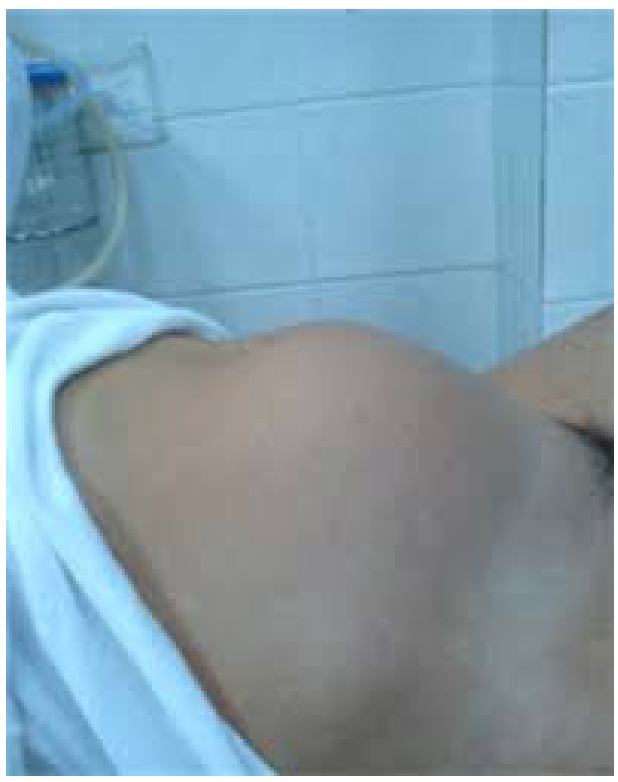
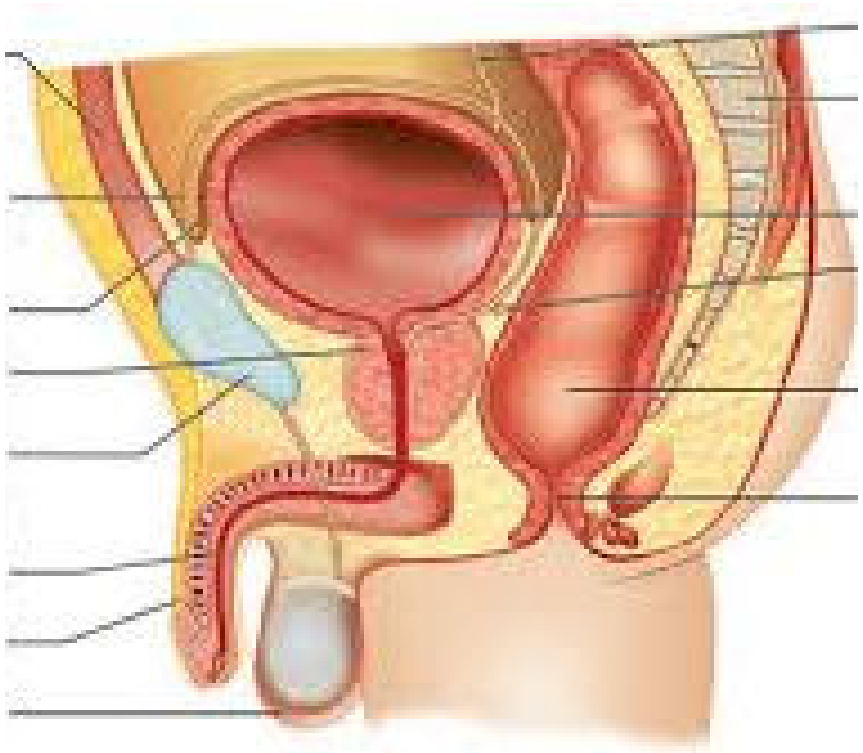
Acute and chronic retention of urine & Management

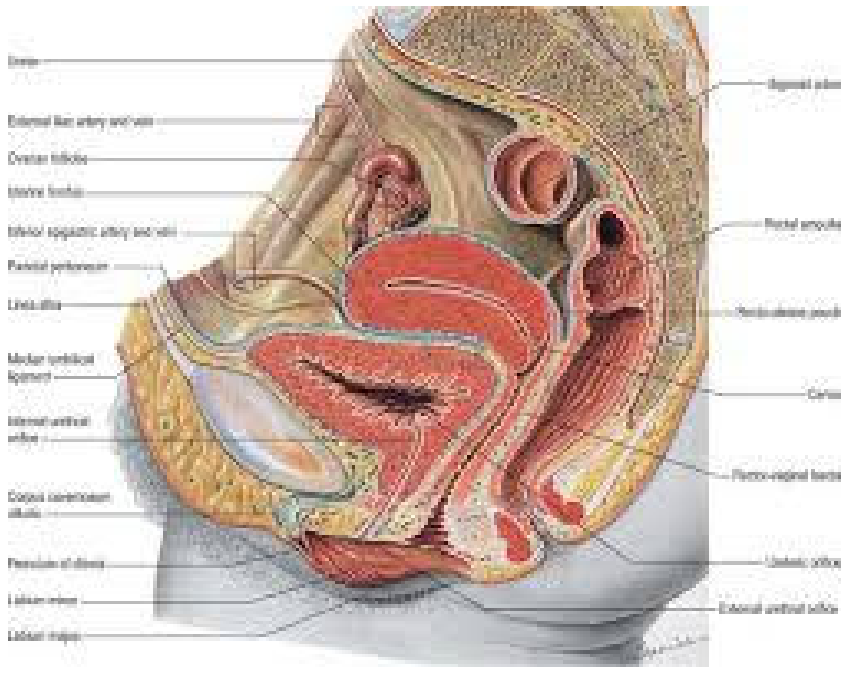
Department of Urology

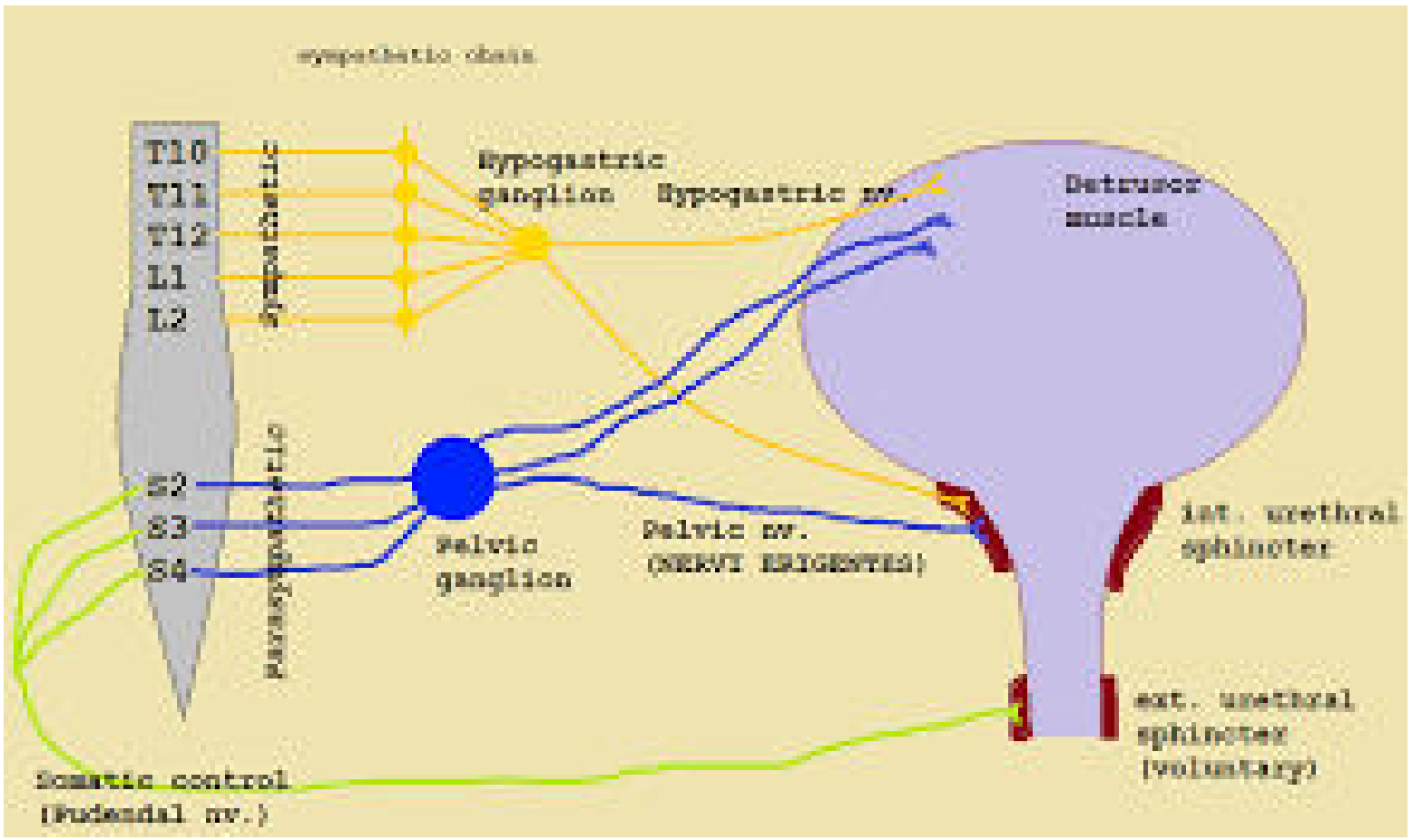
Urinary retention

- Acute
- Chronic
- Acute on chronic





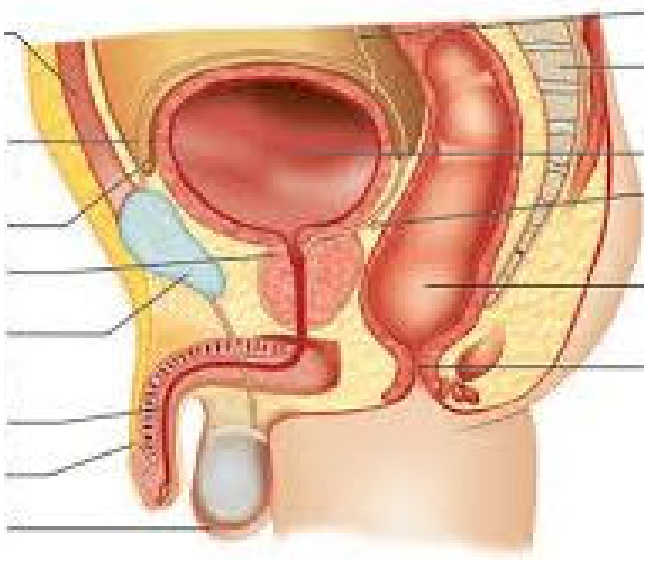


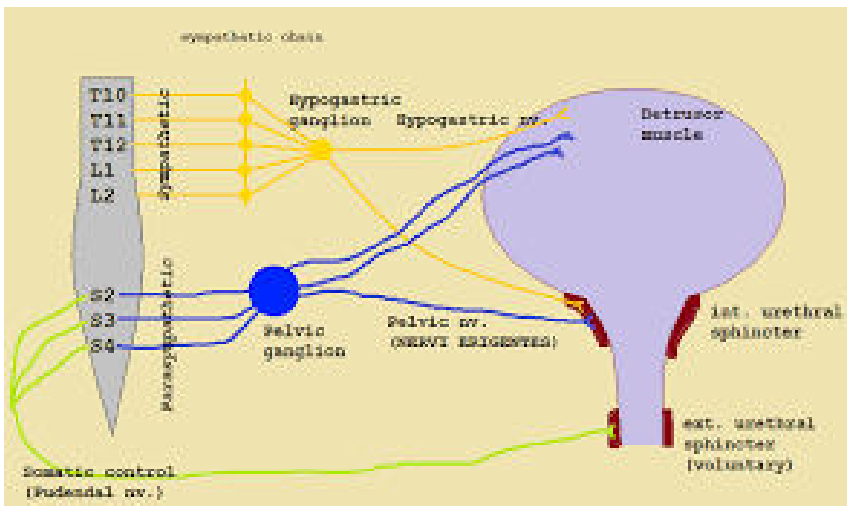


Physiology of micturition

- Filling phase-bladder distension, sphincter closed
- Voiding phase- Bladder contracts, sphincter relaxes

- Mechanical
- Functional





Acute urinary retention (AUR)

- sudden onset, often painful
- Palpable or percussable bladder,
- unable to pass any urine

- Painless
- Spinal cord injury or after regional anaesthesia

- Chronic urinary retention (CUR)
  - non-painful bladder, which remains palpable or percussable after the patient has passed urine

- The ability to feel a bladder may rely on variables including medical skills and patient habitus:

- Patient able to void-residual urine volume> 300 mL(Abram)
- Patient not able to void-residual urine volume (PVR) of> 1000 mL.

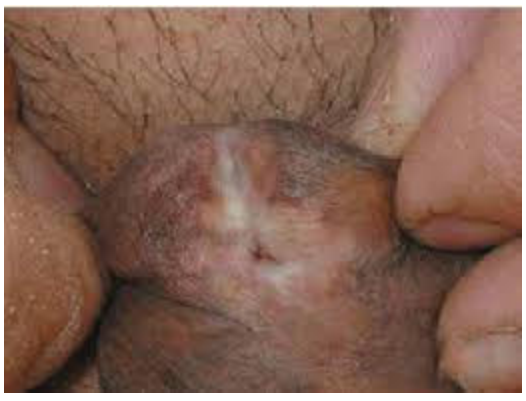
[UK National Institute for Health and Clinical Excellence lower urinary tract symptoms (LUTS) guidelines

- CUR is generally classified as:
  - 1. high pressure
  - 2. low pressure

ADULT MALE

1.Mechanical obstruction of the urethra

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis



2.Inflammatory

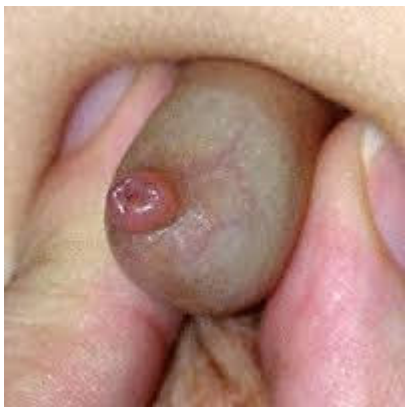
- Acute urethritis
- Acute prostatitis
- Prostatic abscess

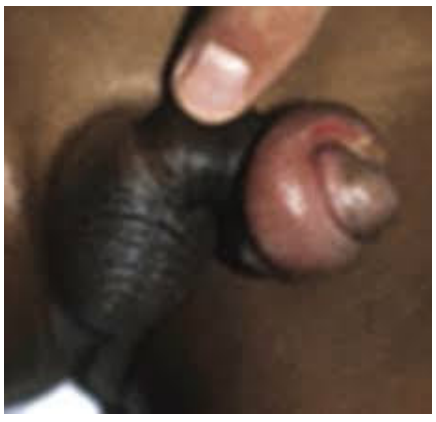
3.Traumatic

- urethral rupture

4.Prepucial

- Phimosis
- Paraphimosis



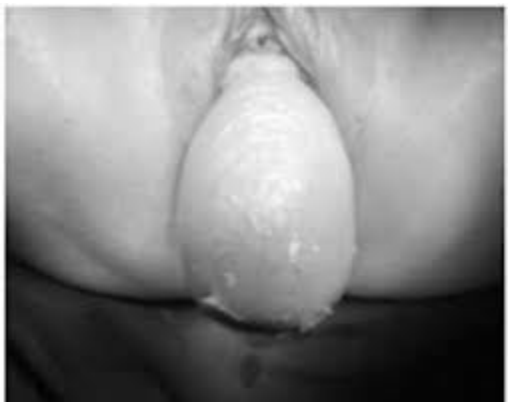


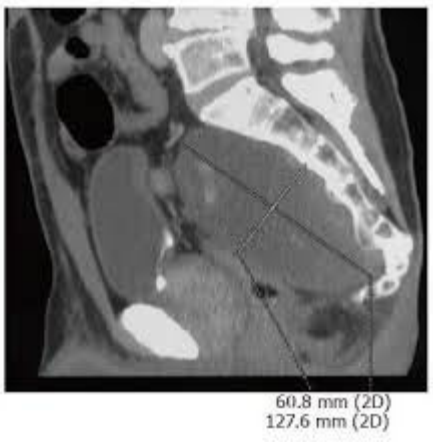
5.Neurogenic

post operative
Spinal injury
Spinal dx – tabes dorsalis, lesions involving cauda equina, multiple sclerosis

IN FEMALE

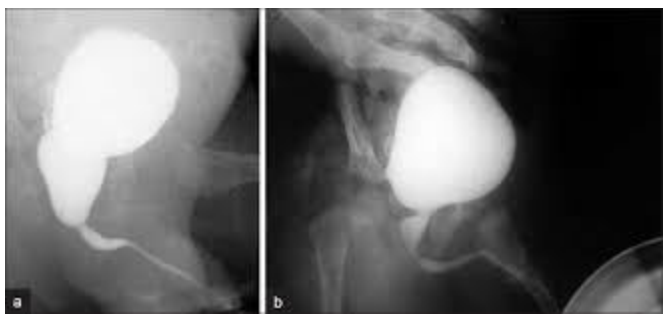
- Retroverted gravid uterus , Prolapse
- Post operative
- Impacted pelvic mass
- Meatal stenosis
- Bladder neck dyssynergia/Neurogenic
- Vesical/urethral calculi





MALE CHILD

- Meatal ulcer with scabbing
- Meatal stenosis/congenital urethral stenosis
- PUV
- Phimosis/paraphimosis
- Neurogenic-spinal bifida



Pricipitants

- Alcohol
- Surgery
- CVA
- Drugs
  - diuretics,
  - antticholinergics,
  - sympathomimmetics,
  - Antidepressants
  - Painful perineal conditions

How to diagnose?

- Diagnosis of urinary retention
- Diagnosis of cause of urinary retention

– History:
– Examination

Palpable bladder

-Inv.

USG(Not always necessary)

Other relevant inv.

1

- **History**
  - 70 year male, Difficulty in voiding for several months, has not passed urine for last 6 hours, pain in the lower abdomen
- **Examination**
  - Suprapubic bulge, dull
  - DRE- grade III, firm, nontender prostate
- Catheterised
  - No difficulty
- USG
  - 70 cc Prostate, homogeneous echotexture
    - ? Dx
  - Mn: Medical or surgical

- ❖ BPH
- ❖ Urethral stricture
- ❖ Prostatic CA
- ❖ Bladder neck stenosis
- ❖ Bladder CA
- ❖ Vesicle or urethral calculi
- ❖ Meatal stenosis

2

- **History**
  - 50 year male, Difficulty in voiding for several months, has not passed urine for last 6 hours, pain in the lower abdomen
- **Examination**
  - Suprapubic bulge, dull
  - DRE- grade III, hard, nodular, irregular boarder non-tender prostate
- Catheterised
  - No difficulty
- USG
  - 70 cc Prostate, inhomogeneous echotexture, with hypoechoic nodules
- PSA
  - 40ng/ml

- Dx?

- Mn: Beyond the scope of this class

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis

3

History
A 40 year old male,
RTA 2 years back
Was in ICU for several days and had prolonged urinary catheterisation
Has thin urinary stream associated with straining during micturition
Multiple febrile episodes associated with dysuria
Frequency of micturition, Dribbling of urine, Nocturnal enuresis
Exam
Palpable bladder
Grade I firm nontender Prostate

Attempt of catheterisation- failed

Dx?
Inv.
-RGU,

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis

4

History

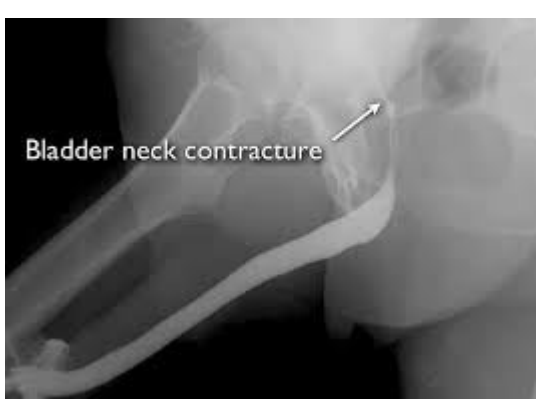
60 yr old male
TURP 6 months back
Poor urinary stream with straining

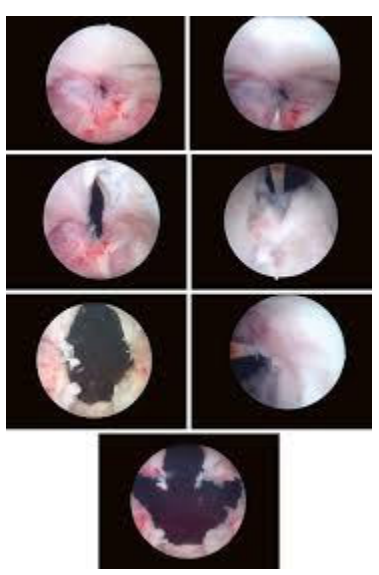
Exam

Binge of alcohol last night
Not passed urine since then, pain in suprapubic region
Palpable bladder

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis

Attempt of catheterisation-failed
Dx?
Inv:
-RGU/Cystoscopy





5

History

65 year old men
Chain bidi smoker
Hematuria followed by inability to pass urine for 1 day

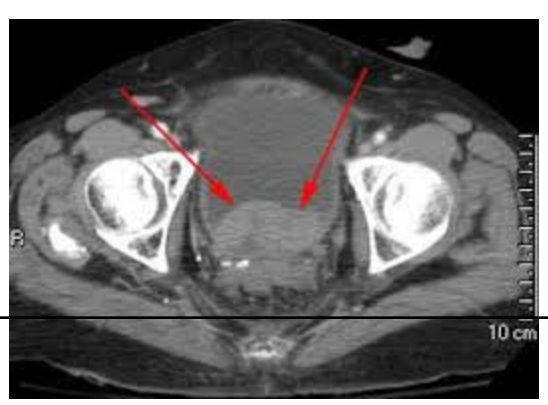
Exam

Palpable bladder
Grade I firm nontender P

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis

Catheterise- foleys drained initially some amount of blood stained urine, not draining thereafter

Dx?
Inv:



6

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis

History

35 year old male

Last week attack of ureteric colic(diagnosed by NCCT KUB, 10 mm stone in left lower ureter)

Exam

Retention of urine for one day, painful

Attempted catheterisation- resistance felt 1 cm proximal to EUM

Hard structure felt in navicular fossa

Dx?

Inv-

X Ray pelvis

7

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis
- Prostatic abscess

History

45 yr old men

Type I diabetes on insulin, poorly controlled

Multiple episodes of UTI

Dysuria, pain in perineum

Fever with chills

Exam

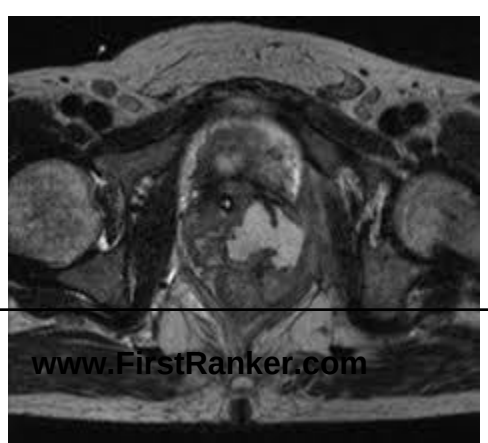
Retention of urine

Painful DRE, tender prostate, boggy selling felt anteriorly

Dx?

Inv:

MRI pelvis/USG/TRUS



8

History

20 year old male
Motercycle accident
Arrived 5 hours later to casuality.

Exam

Bruise in the perineum
Scrotal swelling
Pain in lower abdomen, unable to pass urine
Blood at meatus
Failed catheterisation

Dx?

- Mn:
  - **SPC**

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis
- Urethral trauma

9

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis
- Spinal cord injury

History

30 yr old female
Fall from tree
Unable to move her both limbs, no sensation
Has not passed urine and stool for last 12 hours

Exam

Palpable bladder

Dx?

10

History and Exam

40 year old male
Hernioplasty for right inginal hernia ↓ spinal anaesthesia
Retention of urine posoperatively

Mn?

SPC
PUC
Suprapubic aspiration
conservative

- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis
- Post spinal anaesthesia

11

History

26 year female
Not passed urine for 3 days
H/O intake of some herbal medicine for pain in abdomen
Generalised swelling of body, facial edema

Exam

Bladder not palpable
Catheterised easily, no urine,

Inv

USG- bladder empty
S.Cr-8mg/dl

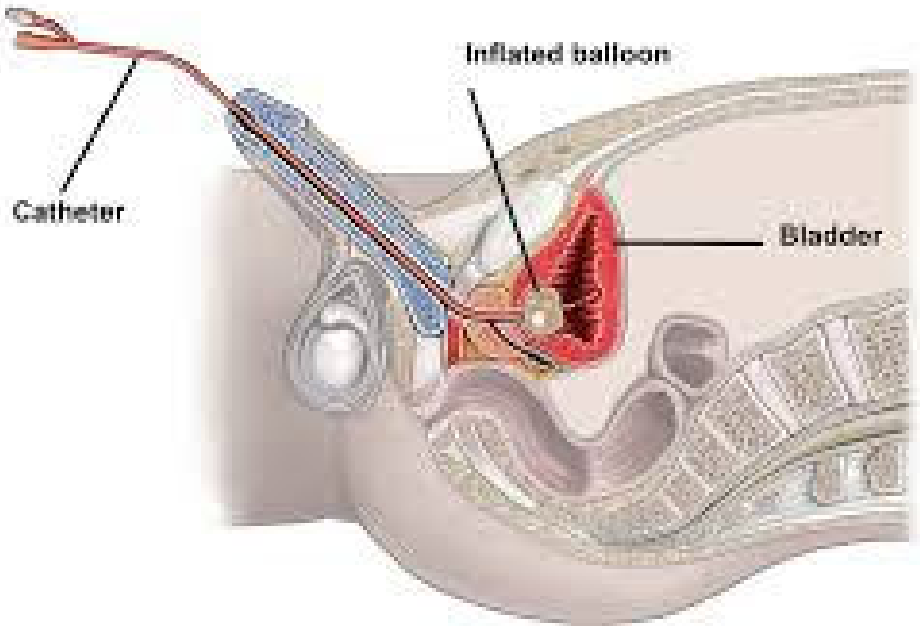
- Dx-?

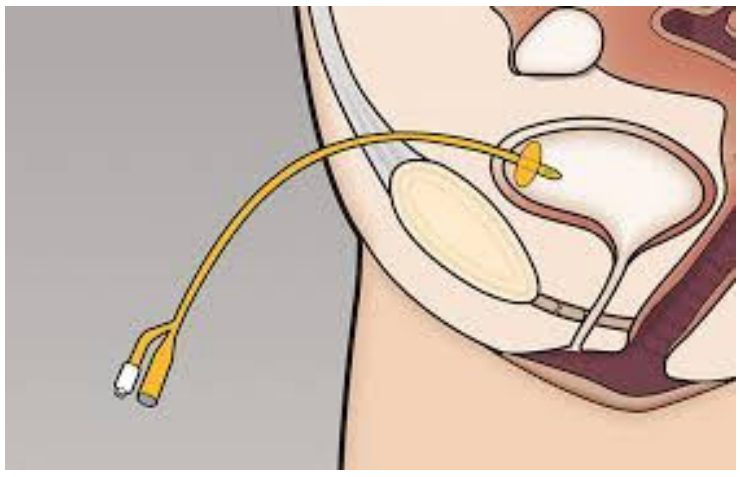
- BPH
- Urethral stricture
- Prostatic CA
- Bladder neck stenosis
- Bladder CA
- Vesicle or urethral calculi
- Meatal stenosis

Anuria

Management

- catheterization maintaining strict asepsis
- suprapubic cystostomy





- Treat the underlying cause

Complications

- Bladder hypertrophy
  Trabeculations
  Diverticular formation
  Hydroureteronephrosis
  Haematuria
  Renal failure
  Recc UTI
  Urolithiasis

Thank you