Prostate Cancer Overview

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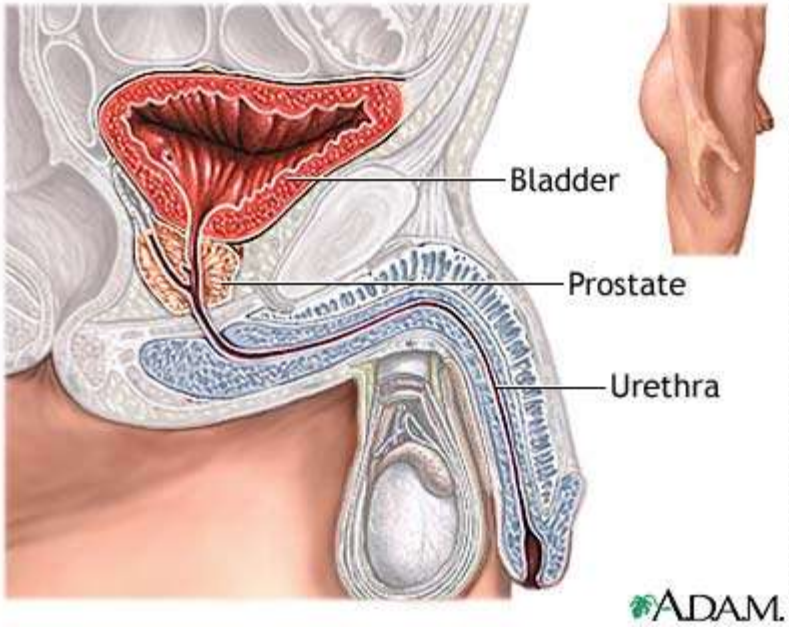
Prostate Gland

- Gland situated deep within the male pelvis
- 'Walnut sized', but can grow as big as a grapefruit
- Responsible for the production of 30% of the seminal fluid
- PSA- produced by the prostate to liquify semen
- Tends to grow with age
- Prostate cancer is common
- Incidence increases with age
- PSA does assist in assessing the risk
- A DRE is important initially



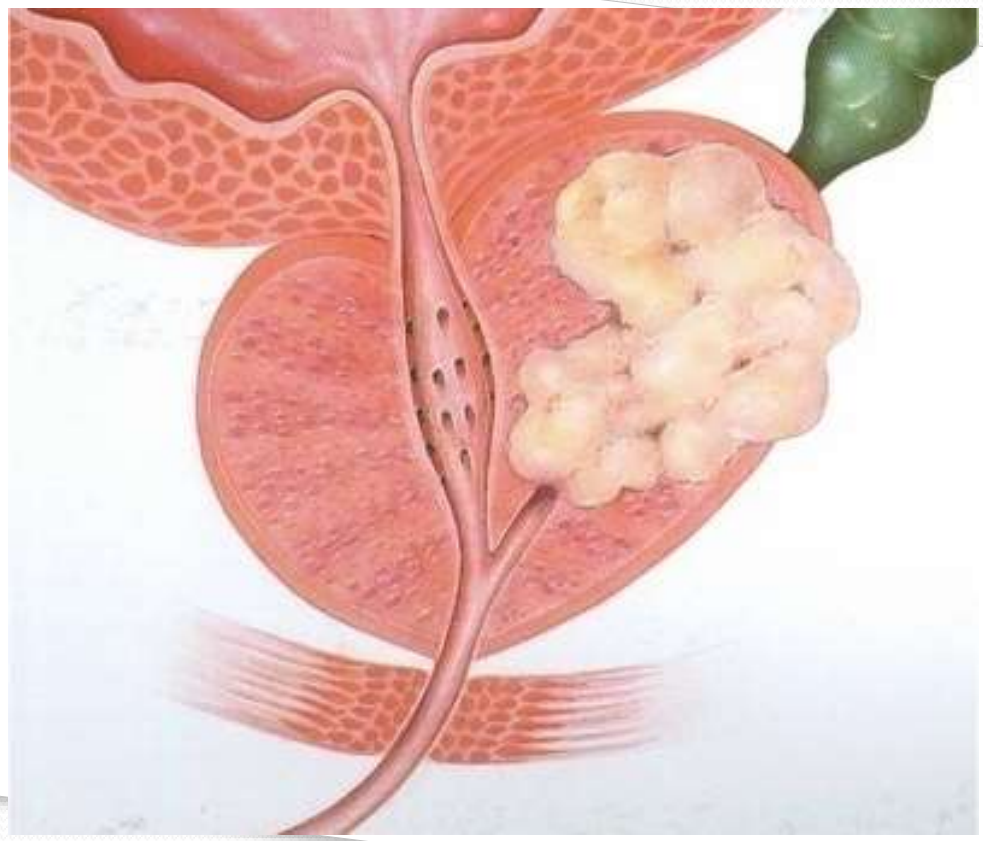
Adenocarcinoma

Some tumours are slow growing, others are aggressive

All treatments have side-effects

Some are incurable, no matter what

PSA is Prostate specific, not cancer specific.



PSA

Age norms:

- 40-49 years: 0-2ug/l
- 50-59 years: 0-3ug/l
- 60-69 years: 0-4ug/l
- 70+ 0-5

Incidence

- Prostate cancer is the most common cancer in men (excluding non-melanoma skin cancer)
- 1 in 9 men will develop prostate cancer by the age of 75 (1 in 5 by age 85)
- Each year 2000 NZ men are diagnosed

Presentation

- Early Disease
  - Often no symptoms
  - Raised PSA
  - DRE-normal or induration
- Advanced Disease
  - Symptoms due to obstruction
  - Evidence of advanced malignancy (weight loss, bone tenderness, lymphadenopathy)
  - DRE hard, craggy prostate

Screening?

No randomised evidence to prove screening saves lives

For Screening

- Tests are simple PSA, DRE.
- Detects cancer earlier, increasing chance of cure
- Treating early Ca P with surgery does improve survival
- Reassurance for patients with negative results

Against Screening

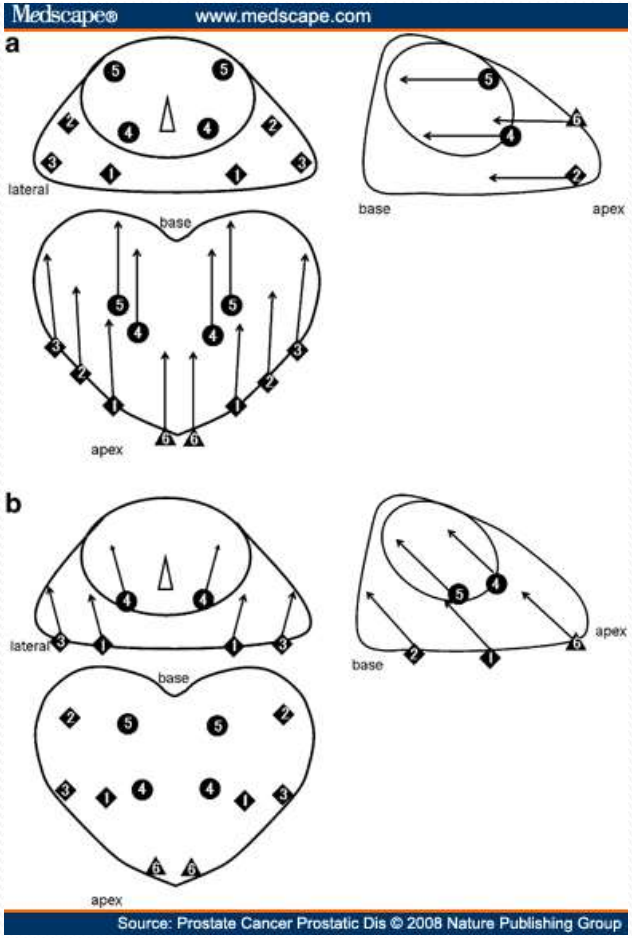
- False positives cause anxiety & further testing
- Cancers can be missed
- Expensive & time consuming
- Indolent cancers may be over-treated

Other causes of raised PSA

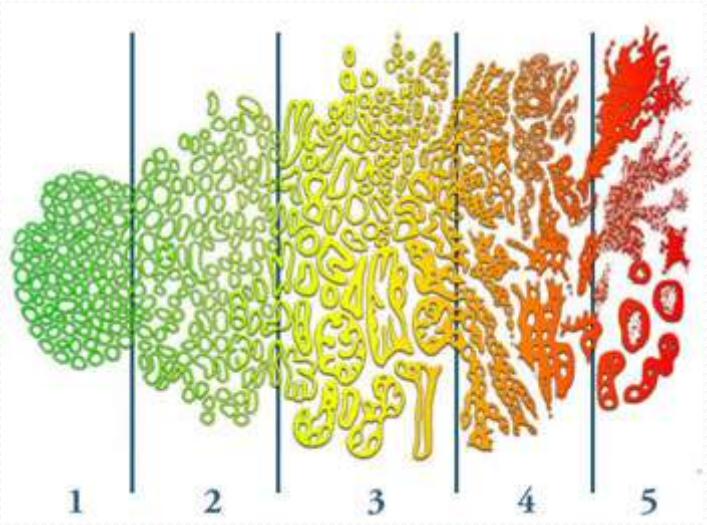
- BPH
- Infections
  - Urinary
  - Prostatitis
- Retention of urine
- Ejaculation
- Prostate Biopsy
- Instrumentation eg catheterisation
- Cycling

TRUS Biopsy

- 12 cores
- Risk of sepsis
  - ? Anal swab
  - Prophylactic antibiotic
- Pain
- Bleeding
  - Haematuria
  - In Semen
  - Rectal



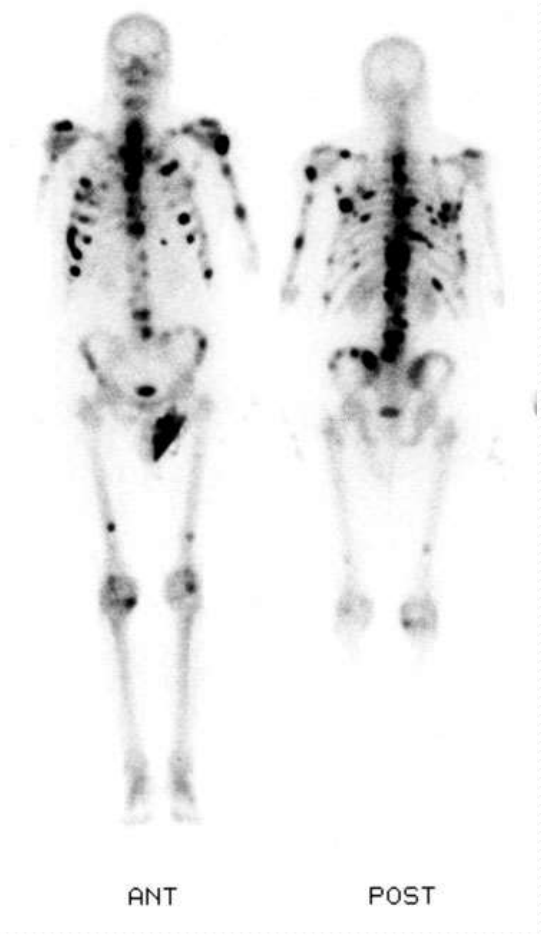
Gleason Score



- Determined by the architectural features under the microscope
- 2 most prominent grades are added together
- Gleason score can range from 6 (3+3) to 10
- New International grading I to V –simpler & easier for patients to understand

Staging: TNM System

- Patients with a PSA>15 or with high clinical suspicion of advanced disease may also be screened for distant metasteses with
  - Bone scan
  - CT
  - MRI (generally looking for localised spread)



Treatment:

- Localised prostate cancer:
  - Active surveillance
  - Radical prostatectomy
  - Radiotherapy (EBRT or brachytherapy [pvte])

  Intention of treatment is cure (>10y life expectancy)

- Metastatic prostate cancer:
  - Therapy relies primarily on androgen deprivation therapy

Aim is to manage the cancer

Active surveillance

- Low grade, low volume disease
- Regular PSAs
- Repeat biopsy +/-MRI
- Treatment if evidence of disease progression
  OR
- Patient preference

Radical prostatectomy

- Younger, fit men (not offered over 75)
- Low volume disease, confined to prostate
- Side effects
  - General surgery complications (bleeding, blood clots, infection)
  - Urinary incontinence
  - Erectile failure ('nerve sparing' surgery improves but doesn't guarantee erectile function)
  - Bladder neck scarring
  - Residual cancer ->radiation
- Open, laparoscopic (or robotic- $$)

Radiation

- External beam radiation non-invasive
- Similar disease free survival rates at 10 years
- Technological improvements (↓damage to surrounding tissues)
- Androgen deprivation may be co administered
- Side effects
  - Local bladder & bowel irritation
  - Long term: ED, urethral stricture disease, cystitis

Brachtherapy

- = localised radiation therapy
- Not available in public system
- High dose – radiation delivered along intraperineal wires
- Low dose
  - Only for low grade disease (Gleason<7)
  - Permanent implanted seeds

Advanced Disease

- Treatment often palliative
- Patient may or may not be symptomatic due to local or metastatic disease
- Androgen deprivation therapy (ADT)
  - Can be initiated early or later, even intermittently ,to limit side effects (ED, low mood, difficulty concentrating, hot flushes, gynaecomastia, osteoporosis, DVT)
  - Medication (LHRH agonists eg Lucrin™, Eligard™ or Zoladex™- Goserelin depot inj, Bicalutamide tablets
  - Surgical castration
  - Eventually prostate cancer becomes androgen independent (CRPC) & ADT no longer effective

Advanced disease

- Focal radiation:
  - Painful skeletal metasteses
  - Spinal cord compression
  - Localised brachytherapy for prostate bed spread
- Chemotherapy:
  - Docetaxel
  - Abioterone
  - Limited role. QoL vs LoL. Need to be monitored
- TURP for BOO

Conclusion

- Prostate cancer is a diverse disease
- Early detection offers hope of cure
- All treatments have significant side-effects
- Treatment needs to be tailored to the individual & their cancer

- Thankyou