Testicular Pain

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Research

Clinical Care

Education

Case scenario 1

30 year old man complains of intermittent testicular pain for 1 month.

Physical examination of the testes: normal

Considerations: What are the possible differential diagnoses?

- Testicular causes
- Non-testicular causes

Case scenario 2

54 year old man complains of scrotal pain for the past 2 months

Physical examination – mild enlargement and nodularity of the left epididymal head. Minimally uncomfortable.

Differential diagnoses?

- Structural causes. E.g. cyst
- Infective causes epididymitis
- Tumour?

Objective of this lecture

- **Review the common and not-so-common causes of testicular pain**
- **Review the considerations other testicular lesions**

  - Pain without any palpable tenderness or pathology
  - Acute pain and swelling of the testis
  - Localized acute pain in the testis
  - Chronic pain post surgery
  - Chronic pain with classical symptoms
  - Lesions not usually associated with pain

Innervation and blood supply of the testes

- **Testes has no somatic innervation**
- **Autonomic supply from the intermesenteric nerves and renal plexus**
- **Blood supply**
  - Testicular artery – branches from the aorta
    - Countercurrent with the pampiniform plexus
    - 2-4 degrees lower than the rectal temperature
  - Artery to the vas
  - Cremasteric artery

Pain without any palpable tenderness or obvious pathology

- **Consider referred pain**
- **Embryological connection between the testes, prostate, bladder and trigone and ureter**
- **Consider:**
  - Bladder stones
  - Distal ureteric stones
  - Prostatitis / chronic pelvic pain
- **Do:**
  - Urinalysis or urine dipstick – gives a clue for haematuria or infection
  - Digital rectal examination
  - Urine culture
  - US testes – for occult lesions

Acute onset pain with swelling of the testes/epididymis

- **My testes are swollen and painful!**
- **Consider torsion versus epididymitis**
  - Torsion
    - May have horizontal lie
    - Testis retracted, swollen and tender
    - Loss of cremasteric reflex
    - Younger age group
  - Epididymitis
    - May mimic torsion
    - Tenderness more on the epididymis (posterior)
    - May have LUTS symptoms or UTI symptoms
  - If in doubt, need emergency US or surgical exploration
  - 6-hour window from onset to irreparable damage

Epididymitis

- **Acute swelling < 6 weeks**
- **Etiology**
  - Young men – consider sexually transmitted organisms – C trachomatis, N Gonorrhoea
  - Older men – urinary obstruction – consider causes of bacteriuria
  - Homosexual – coliforms

Epididymitis / epididymo-orchitis

- **Clinical presentation**
  - Half of men do not have urethral discharge
  - Tenderness and swelling of the epididymis
  - Usually begin at the tail, then spread (to testes)

- **Treatment**
  - Do urine culture and sensitivity
  - Urethral smear if suspect STD
  - Fluoroquinolones, Cotrimoxazole for non STD
  - Doxycycline, ceftriaxaone, tetracycline for STD
  - Bed rest, scrotal elevation

Tuberculous epididymitis

- **May have acute presentation or chronic**
- **Difficult to suspect if no other urinary symptoms**
- **Do UFEME – sterile pyuria – consider genitourinary TB**
- **Ultrasound may show hypervacular epididymal nodular mass**
- **Treat with anti-TB treatment, epididymectomy, if not better**

Acute onset pain and tenderness at the upper pole of the testis

- **Torsion of the appendix testis / appendix epididymis**
  - Variable presentation: insidious onset of srotal pain to sudden pain mimicking torsion testis
  - Localised tenderness at the upper pole of the testis/epididymis
  - Blue dot sign
  - Scrotal wall may have oedema
  - Testis mobile, cremasteric reflex intact

Chronic pain post-surgery

- **Post hernia repair**
- **Post vasectomy**

Post-hernia repair orchalgia

- **Nerve entrapment**
- **Resolves with conservative treatment**
  - NSAIDs
  - Neuroforte/Neurobion
  - Panadol
- **If persistent, may warrant surgery to remove any non-absorbable suture material**

Post-vasectomy pain syndrome

- **Some pain occurs in about 30% of men**
- **Chronic pain requiring surgery in 0.1%**
- **Chronic congestive epididymitis**
  - Swollen epididymitis
  - NSAIDs, sitz baths, acupuncture, etc
  - Wait at least 3 months
  - Definitive: reversal of vasectomy or epididymectomy
- **Sperm granuloma**
  - Sperms are highly antigenic
  - Inflammatory response may result in a granuloma up to 2cm diameter
  - Usually resolve with time.

Chronic pain with classical symptoms

- **Chronic epididymitis**
- **Varicocoele**
- **Chronic intermittent torsion**

Chronic epididymitis

- **Persistently tender and indurated epididymis**
- **Positive semen or urine culture**
- **Treat with antibiotics, anti-inflammatory agents, sitz baths**
- **Pain clinic, acupuncture**
- **Avoid diagnostic puncture if fertility desired – epididymal obstruction**
- **Total epididymectomy if fertility not desired**

Varicocoele

- **Heavy sensation**
- **Persistent ache**
- **Relief when lying down**
- **Surgery if there is typical symptoms related to varicocoele**
  - Grade 1: palpable with valsalva
  - Grade 2: palpable without valsalva
  - Grade 3: visible

- **Non-surgical treatment**
  - Supportive underwear

Varicocoele and fertility

- **Prevalence 15% - possibly persist from adolescence**
- **Much higher in subfertile men**
- **Evidence and recommendation for treatment of varicocoeles in the following situations**
    - Clinically palpable (i.e. not just based on Ultrasound)
    - Abnormal semen parameters
    - Partner is normal (or potentially correctable infertility)
    - Documented sub-fertility
  - Young men not presently desiring children should also be offered treatment
  - Adolescents should be followed up annually with testicular size +/- semen analysis

Torsion and intermittent torsion

- **Intermittent pain associated with nausea**
- **Affected testis retracted and elevated**
- **Transverse lie – bell clapper deformity**
- **Spontaneously disappears after few minutes to hours**
- **Scrotal orchidopexy – fixes both testes and avoids rotation**

Chronic orchalgia of unknown origin

- **Ureteric stone**
- **LUTS**
- **Occult hernia**
- **Irritable bowel syndrome**
- **Referred pain**

Lesions not usually associated with pain

- **Epididymal lesions**
- **Testicular adnexal lesions**

Epididymal lesions

- **Epididymal cyst / Spermatocoele**
  - Retention cysts on the rete testes or epididymis
  - Often no treatment needed
  - Surgery for pain
  - Risk of epididymal obstruction

Tumours of the testicular adnexae

- **Adenomatoid tumours**
  - Mainly in age 20s – 30s
  - Small solid lesions in the epididymis
  - Vacuolated cells
  - Surgical excision

- **Mesothelioma**
  - Para-testicular mesothelioma
  - Older individuals
  - 15% metastasize
  - Orchidectomy

- **Cystadenoma**
  - Cystic tumour of the epididymis
    - Excision

- **Other rare tumours**
  - Leiomyosarcoma
  - Liposarcoma

Summary

- **There is still no substitute for good history and physical examination.**
  - Ultrasound of the testes provides useful additional information on occult pathology
- **Management of non-acute testicular pain can be fairly straightforward**
  - Surgery is often a last resort
- **For sudden onset pain, the main consideration is for torsion which is a surgical emergency**

Case scenario 1

- **30-year-old man complains of intermittent left testicular pain for 1 month.**
- **Physical examination of the testes: normal**

- **No other symptoms**
- **Ultrasound of the kidneys and testes normal**
- **Pain resolved**
- **Presumptive diagnosis - ? Mild epididymitis, now resolved, Discharged**

- **4 weeks later, presented to ED with ureteric colic, passed a 5mm ureteric stone**

Case scenario 2

- **54 year old man complains of scrotal pain for the past 2 months**
- **Physical examination – mild enlargement and nodularity of the left epididymal head. Minimally uncomfortable.**
  - US testes – small left epididymal cyst, thickened epididymis consistent with chronic epididymitis
- **Treated with multiple courses of antibiotics, analgesics, not better.**
  - Eventually had a left partial epididymectomy
- **Initially much improved, but symptoms later recurred**
  - Patient is sexually active, potentially desiring children
- **Not responding to conservative measures**
  - Eventually tried acupuncture, with good results

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Thank you
for your attention