Urinary Schistosomiasis: Urological manifestations & complications

Dr MJ Engelbrecht
Department of Urology
Clinical presentation

• Three clinical stages
  – Swimmer’s itch
  – Acute schistosomiasis
  – Chronic schistosomiasis
Swimmer’s itch

• Pruritic, macular or maculopapular rash – site of cercarial penetration
• 3 – 18 hours post exposure
• Lasts : few hours - days
Acute schistosomiasis

• Katayama fever
  – Fever
  – Lymphadenopathy
  – Splenomegaly
  – Eosinophilia – 80%
  – Urticaria
  – Sweat
  – Diarhea
  – Rare with S. hematobium
  – 3 – 9 weeks after infection
  – Egg laying = antibodies = syndrome
Clinical pathology

• Other syndromes due to Bilharzia
  – Ayerza syndrome
    • Migration through lungs
    • Endarteritis obliterans
    • Cor pulmonale
  – Loeffler syndrome
    • Hypersensitivity in lungs
    • Asma, cough, hemoptisis
Chronic Schistosomiasis

• Chronic active phase
  – Eggs deposited in bladder or rectum
  – Lasts 2/3 months up to 7 months
  – Clinically
    • Terminal hematuria
    • Dysuria
  – Some years later
    • Absent symptoms
    • Silent obstructive uropathy
  – Chronic or recurrent UTI
    • Salmonella typhi
    • Salmonella paratyphi
Chronic Schistosomiasis

• Chronic inactive schistosomiasis
  – No viable eggs in urine
  – Signs & symptoms
    • Due to sequelae & complications
    • 40 – 60% present during this stage
    • Chronic or acute UTI super imposed on obstructive uropathy
Complications

• Renal complications
  – Xanthogranulomatous pyelonephritis
    • Marked increase in pyelonephritis
  – Neprotic syndrome
    • Mesangioproliferative
    • Membranoproliferative
    • Minimal change
Complications

• Ureteral complications
  – Most common
  – Obstruction + /- functional obstruction
  – Hydroureter and hydrenephrosis
  – 3 types
    • Segmental ureteral dilatation
    • Tonic hydroureter
    • Atonic hydroureter
Figure 21-19. Intravenous urogram in another Egyptian boy shows scalloping of the bladder and right lower ureter by schistosomal polyloid lesions.
Complications

• Bladder complications
  – Schistosomalous polyposis
  – Schistosomalous contracted bladder
    • Pain
    • Urgency
    • Diurnal + nocturnal frequency
    • Incontinence
  – Bladder ulcers
  – Urothelial metaplasia
  – Squamous cell carcinoma
Complications

- **Prostate**
  - Oviposition possible
  - No correlation with prostatitis
  - Evidence of functional bladder outlet obstruction
  - Partial TUR = reversed clinical signs of obstruction

- **Seminal vesical**
  - Asymptomatic hematospermia
  - Rarely if ever causes male infertility

- **Epididimys**
  - Schistosomal epididimyitis – variable scrotal pain
  - Calcifications in vas deferens = beaded vas
Tuberculosis of the genito-urinary tract
Transmission

• Inhalation of aerosolized droplet nuclei
• Probability of developing TB in competent host = 5-10%
• Virtually all AIDS pt will develop TB
• M. Bovis – contaminated milk
• Urinary tract most common site for extra pulmonary TB
Pathology

• Kidney
  – Metastatic renal infection
  – Caseating granulomas
  – Healing leads to fibrosis & calcification
  – Papilary necrosis
  – Infundibulum strictures
  – Hypertension = reduced blood flow
Pathology

• Ureter
  – Most common = ureterovesical junction
  – Sec. to extensive renal disease
Pathology

• Bladder
  – Starts around ureteric orifice = delta signs
  – Ureteric orifice = stricture/golf hole
  – TB ulcers – rare
  – Vesico rectal fistulas
Pathology

• Testis
  – Sec. to infection in epididymis

• Epididymis
  – Globus minor
  – Discharging sinus
  – Beading of vas deferens

• Prostate
  – Rare
  – Perineal sinus
Pathology

• Penis
  – Post coital contact
  – Superficial ulcer on glans
  – Solid nodule

• Urethra
  – Urethral discharge
  – Urethral stricture
Diagnosis

• Clinical
  – Vague, longstanding urinary symptoms
  – Frequent painless micturition
  – Suprapubic pain
  – Recurrent cystitis
  – Hematospermia – rare
  – Painfull testicular swelling

• Tuberculin test
  – Previous exposure vs. active infection
Diagnosis

• Urine MCS
  – Sterile urine
    • Sterile pyuria – 80%
    • Microscopic heamaturia - 50%
  – 5 Consecutive first morning urine for ZN and culture
  – Urine for Ribosomal RNA amplification
Radiography

• AXR
  – Calcification in area of the kidney

• IVP
  – Distorsion of calyx
  – Infundibular stenosis
  – Calyceal/parenchymal destruction
  – Thimble bladder – small and contracted
Treatment

- Pharmacological
  - Rifampicin
  - Isoniazid
  - Pyrazinamide

\[6 - 9 \text{ Months}\]
Treatment

• Surgery
  – Nephrectomy – indications
    • Non fx kidney with/without calcifications
    • Extensive disease with hypertension and PUJ obstruction
    • Co existing renal carcinoma
  – Partial nephrectomy
    • Localized area of calcifications with failure of response after 6 weeks therapy
    • Area of calcification slowly increasing in size
Treatment

• Epididymectomy
  – Caseating abscess not responding to chemotherapy

• Ureteral strictures
  – Fibrosis after initiation of therapy