

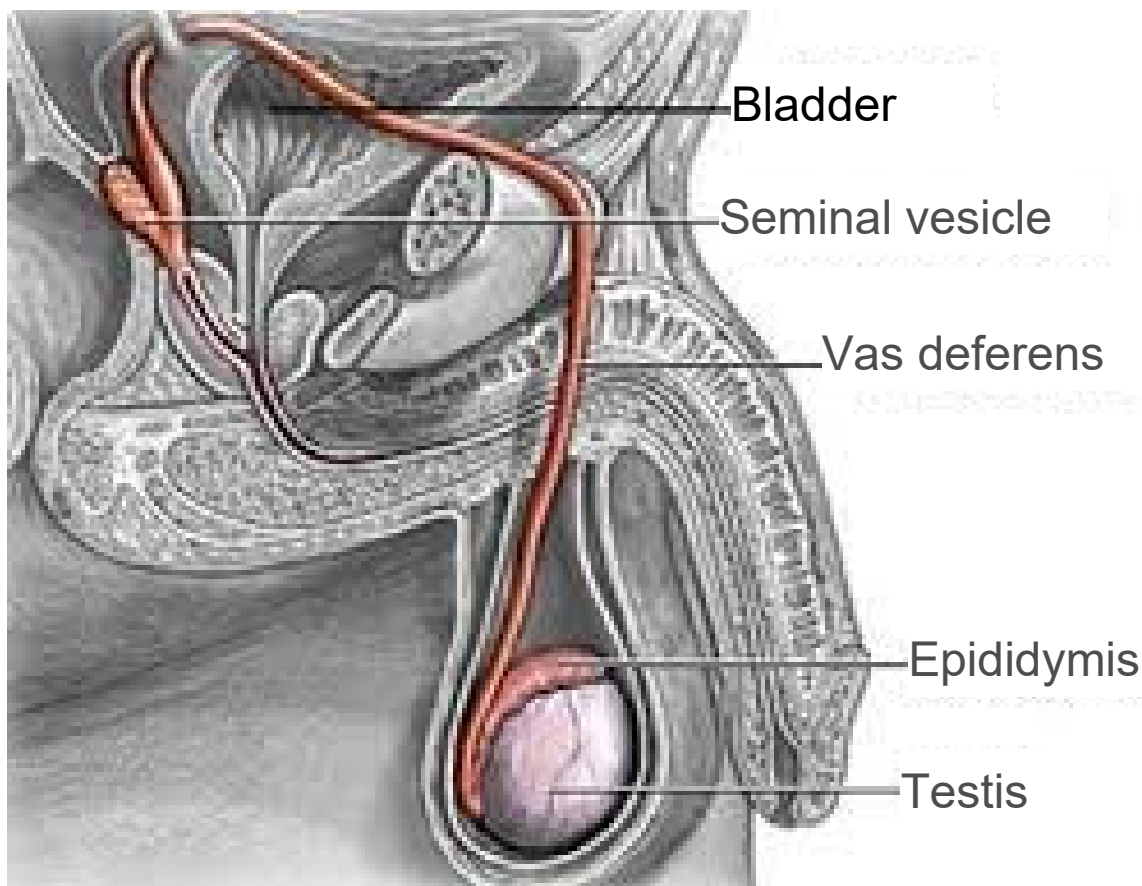
Epididymoorchitis : spectrum and management

Department of Urology

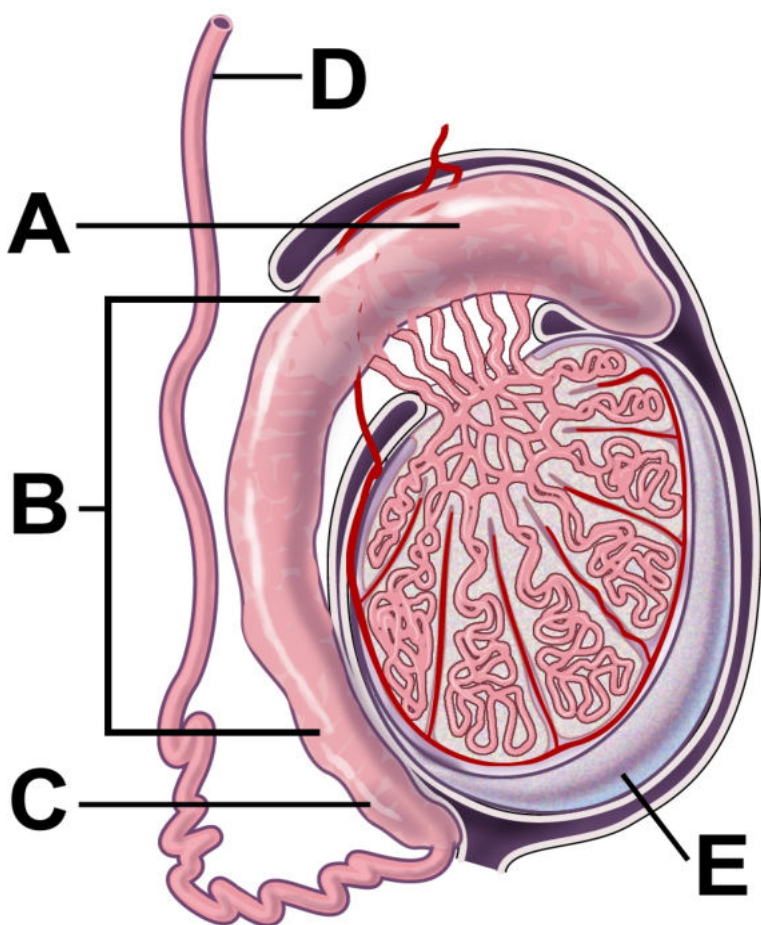
Learning Objectives

- Describe the clinical manifestations, methods of identification, CDC treatment guidelines, prevention and follow up for epididymoorchitis.

Anatomy review



Anatomy review



- A: Caput or head of the epididymis
- B: Corpus or body of the epididymis
- C: Cauda or tail of the epididymis
- D: Vas deferens
- E: Testicle

Risk Factors

- Sexual intercourse with more than one partner and not using condoms
- Being uncircumcised
- Recent surgery or a history of structural problems in the urinary tract
- Regular use of a urethral catheter

Classification of Orchitis

- Acute bacterial orchitis
 - Secondary to urinary tract infection
 - Secondary to sexually transmitted disease
- Nonbacterial infectious orchitis
 - Viral
 - Fungal
 - Parasitic
 - Rickettsial
- Noninfectious orchitis
 - Idiopathic
 - Traumatic
 - Autoimmune
- Chronic orchitis
- Chronic orchialgia

Classification of Epididymitis

- Acute bacterial epididymitis
 - Secondary to urinary tract infection
 - Secondary to sexually transmitted disease
- Nonbacterial infectious epididymitis
 - Viral
 - Fungal
 - Parasitic
- Noninfectious epididymitis
 - Idiopathic
 - Traumatic
 - Autoimmune
 - Amiodarone-induced
 - Associated with a known syndrome (e.g., Behçet disease)
- Chronic epididymitis
- Chronic epididymalgia

Causes of acute epididymitis

- Among sexually active men aged <35 years
 - *C. trachomatis* or *N. gonorrhoeae*
- Men who are the insertive partner during anal intercourse:
 - *Escherichia coli* and *Pseudomonas* spp
- Men aged >35 years
 - Sexually transmitted epididymitis is uncommon
 - Bacteriuria secondary to obstructive urinary disease is more common

Causes of chronic epididymitis

- Inadequate treatment of acute epididymitis
- Recurrent epididymitis
- Granulomatous reaction
 - *Mycobacterium tuberculosis* (TB) is the most common granulomatous disease affecting the epididymis
- Chronic disease

Incidence

- Epididymitis is most common in young men ages 19 – 35
- ~1 in 1000 men develop epididymitis annually
- Acute epididymitis accounts for >600,000 medical visits per year in the U.S.
- Patients with epididymitis secondary to a STI have 2-5 times the risk of acquiring and transmitting HIV

Acute Epididymitis

- Discomfort and/or pain in the scrotum, testicle, or epididymis lasts <6 week
- Usually caused by a bacterial infection

Chronic Epididymitis

- Discomfort and/or pain in the scrotum, testicle, or epididymis lasting >6 weeks
- Pain may be constant or waxing and waning
- Scrotum is not usually swollen but may be indurated in long-standing cases

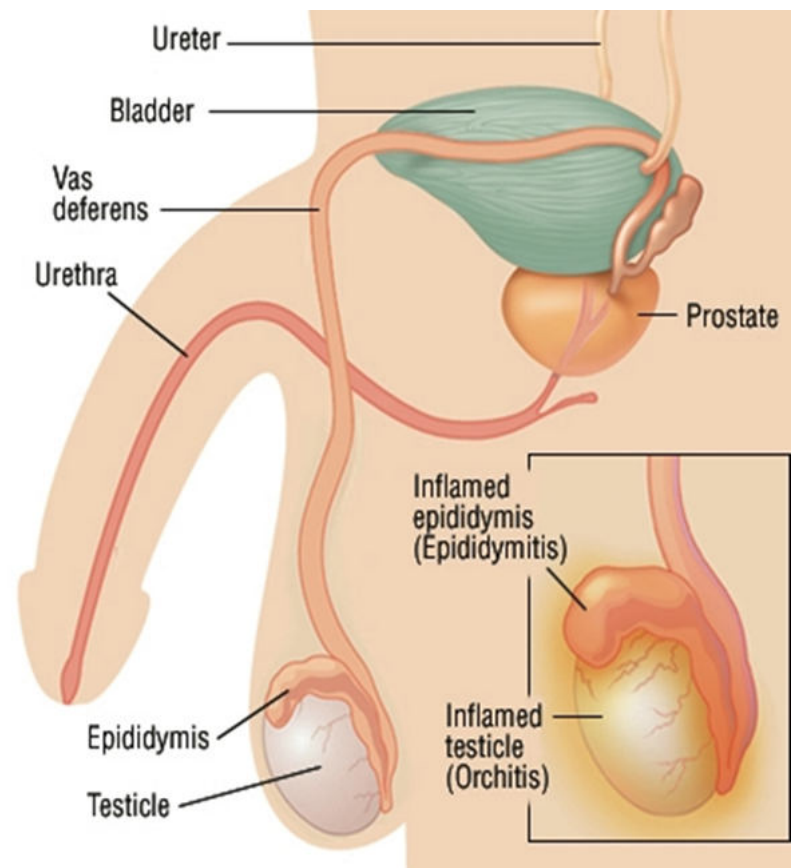
Mumps Orchitis

- Fever, malaise & myalgia
- Parotiditis typically preceding onset of orchitis by 3-5 days
- Subclinical infections



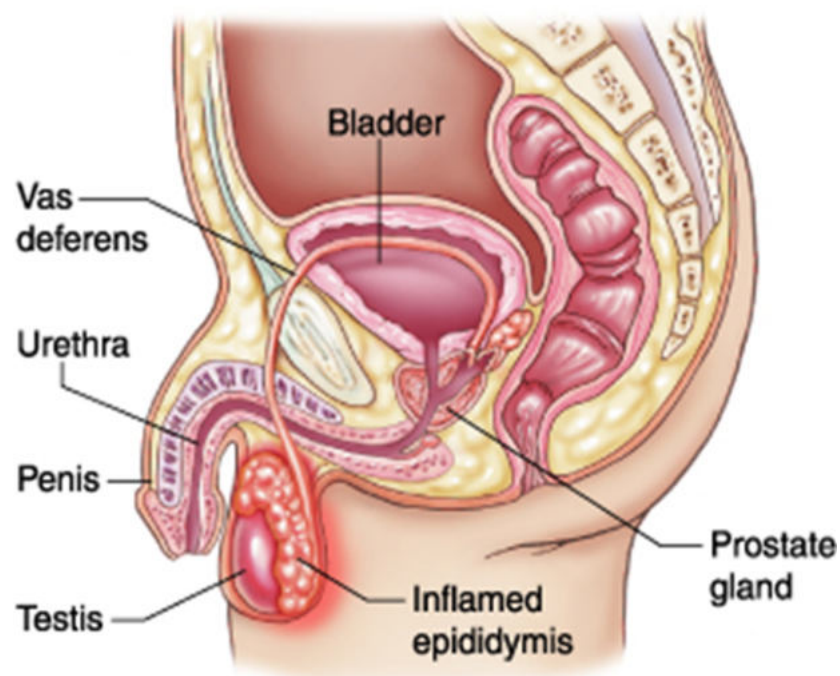
Epididymitis – signs/symptoms

- Heavy sensation in the testicle area
- Painful scrotal swelling
- Fever
- Chills
- Testicle pain gets worse with pressure
- Lump in the testicle



Epididymitis – signs/symptoms

- Blood in the semen
- Discharge from the urethra
- Pain or burning during urination or ejaculation
- Discomfort in the lower abdomen or pelvis



Diagnosis

- Urine R/M
- Urine C/S
- Urethral swab
 - intracellular gram-negative diplococci, -*N. gonorrhoeae*
 - only WBCs - *C. trachomatis*
- Scrotal USG(rule out testicular torsion)

Epididymitis – diagnosis

- Gram stain of urethral secretions demonstrating ≥ 5 WBC per oil immersion field
- Positive leukocyte esterase test on first-void urine
- Culture, nucleic acid hybridization tests, and NAATs are available for the detection of both *N. gonorrhoeae* and *C. trachomatis*

Epididymitis – diagnosis

- Physical exam
- Additional tests:
 - Complete blood count
 - Doppler ultrasound
 - Testicular scan (nuclear medicine scan)
 - Urinalysis and culture

Acute Epididymitis vs Testicular Torsion

Acute Epididymitis

- Gradual onset of scrotal pain (days)
- Normal cremasteric reflex
- Usually no nausea & vomiting
- More common in sexually active men
- HPI & exam support a diagnosis of urethritis or urinary-tract infection
- Empiric treatment & follow-up

Testicular Torsion

- Sudden onset of scrotal pain (hours)
- Abnormal cremasteric reflex
- Nausea & vomiting common
- More common in adolescents and in men without evidence of inflammation or infection
- HPI & exam do not support a diagnosis of urethritis or UTI
- Surgical emergency

Epididymitis – treatment

- Empiric treatment is indicated before laboratory results are available
- Goals of treatment of acute epididymitis caused by *C. trachomatis* or *N. gonorrhoeae*:
 - Microbiological cure of infection
 - Improvement of signs & symptoms
 - Prevent transmission to others
 - Reduce potential complications

Epididymitis – treatment

- Recommended Regimens:
 - Ceftriaxone 250mg IM in a single dose **PLUS**
 - Doxycycline 100mg PO BID x 10 days

For acute epididymitis most likely caused by enteric organisms:

- Levofloxacin 500mg PO once daily x 10 days
OR
- Ofloxacin 300mg PO BID x 10 days

Source: Centers for Disease Control and Prevention (CDC). Epididymitis. In: Sexually transmitted diseases treatment guidelines, 2010. MMWR Recomm Rep. 2010 Dec 17;59(RR-12):67-9.

Epididymitis – follow up

- Pain improves within 1-3 days
- Induration can last a few weeks-months to resolve
- Swelling and tenderness that persists after completion of treatment should be evaluated comprehensively
- Evaluate for formation of an epididymal abscess or a testicular abscess

Epididymitis – complications

Complications of epididymitis:

- Abscess in the scrotum
- Chronic epididymitis
- Fistula on the skin of the scrotum (cutaneous scrotal fistula)
- Death of testicular tissue due to lack of blood (testicular infarction)
- Sepsis & infertility

Epididymitis – prevention

- Practicing safe sex
- Treating sexual partners as a contact to epididymitis
- Repeat screening for STI ~ 2 months after initial testing for re-infection
- Abstain from sex until the individual & sex partners have completed treatment

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