Epididymo-orchitis

Definition
- Inflammation of the epididymis and, occasionally, of the testicle, with unilateral progressive pain and swelling developing over several days.
- Secondary to reflux of urine through the ejaculatory ducts or spread hematogenously (TB, brucellosis, mumps orchitis, or orchitis in children).
- Average age of presentation: 41 years. 43% of cases occur between the ages of 20-40 and 29% between 40-60.

Etiology
- Infectious: Retrograde canalicular infection of the epididymis or testicle caused by Enterobacteriaceae, although 55-70% of cases are considered to be idiopathic, with no microorganisms being isolated.
  - In patients <35 years
    - Chlamydia trachomatis
      - By sexual contact
  - In patients >35 years
    - Escherichia coli
      - By urinary tract obstruction
      - By instrumentation

  - Mumps orchitis occurs in 20-30% of adults with the mumps virus.
  - Due to Mycobacterium tuberculosis: enlarged and hyperemic epididymis with cysts and calcifications. Usually due to hematogenous spread from an extraintestinal focus; bilateral in 25% of cases. May also be secondary to the Calmette-Guérin bacillus.
  - Due to Brucella: in 10% of patients with brucellosis. Presence of a loculated hydrocele.
  - Due to Wucheria bancrofti: filariasis causes fever, lymphangitis, chyluria, and hydroceles.

- Non-infectious: through various mechanisms without the involvement of microorganisms.
  - In sarcoidosis: epididymal granulomas; bilateral in 30% of cases.
  - Behçet’s disease: vasculitis with genital ulcers, uveitis, and epididymitis.
  - Secondary to Amiodarone: in 11% of cases, antibodies are produced that react against the epididymal coverings, provoking an inflammation.
  - In the Henoch-Schönlein purpura: microangiopathy due to IgA deposits in prepubescent children. Responds to Corticosteroids.

- Chronic prostatitis: mild to moderate pain that develops over at least 3 months. A differential diagnosis must be made with prostatitis/CPPS.

Symptoms
- Fever.
- Pain in the corresponding hemiscrotum (radiating along the cord).
- Unilateral increase in scrotal size. Bilateral in 20% of mumps orchitis cases.
- Signs of inflammation in the testicle, epididymis, and cord (edema, heat, hyperemia).
- Urethral discharge upon squeezing the urethra, especially in cases caused by C. trachomatis.
- In children: usually viral in origin and can be treated conservatively with ice and analgesics.

Diagnosis
- Gram stain of urethral discharge: Gram-negative diplococci (N. gonorrhoeae) or only leukocytes, which would indicate a non-gonococcal urethritis (66% caused by C. trachomatis).
- Urinalysis: pyuria.
- Urine culture: must be collected before initiating treatment.
- PCR: higher sensitivity for detecting C. trachomatis.
- Scrotal ultrasound: shows signs of epididymal inflammation. If filariasis is present, viable microfilarial movements can be seen: filaria dance sign.
- Differential diagnosis: with testicular torsion. Mainly supported by clinical examination and Doppler ultrasound of the testicle. (See chapter on Testicular torsion).
Treatment

- **Outpatient treatment**: with relative rest, scrotal elevation, **analgesics**, **antiinflammatories**, and **antimicrobials** (if orchitis of an infectious origin is suspected).

- **Hospitalization**: in cases of intense **fever**, **leukocytosis**, or intense **pain**, which indicate a concomitant complication, or if there is comorbidity (diabetes or immunosupression).

- **Antiinflammatories**. Any of the following:

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand name®</th>
<th>Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diclofenac</td>
<td>VOLTAREN</td>
<td>1 tab of 100 mg/24 h</td>
<td>7 d</td>
</tr>
<tr>
<td>Ibuprofen</td>
<td>IBUPROFEN</td>
<td>1 tab of 600 mg/12 h</td>
<td>7 d</td>
</tr>
<tr>
<td>Piroxicam</td>
<td>FELDENE</td>
<td>1 tab of 10-20 mg/24 h</td>
<td>7 d</td>
</tr>
</tbody>
</table>

- **Antimicrobials in patients <35 years of age** and not allergic to **Penicillin** (to cover **N. gonorrhoeae** and **C. trachomatis**). Treatment of the sexual partner(s) is recommended.

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand name®</th>
<th>Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceftriaxone</td>
<td>CEFTRIAXONE</td>
<td>1 inj of 1 g im</td>
<td>sd</td>
</tr>
<tr>
<td>Doxycycline</td>
<td>DOXYCYCLINE</td>
<td>1 caps of 100 mg/12 h</td>
<td>10</td>
</tr>
</tbody>
</table>

- **Antimicrobials in patients <35 years of age and allergic to penicillin**:

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand name®</th>
<th>Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Levofloxacin</td>
<td>TAVANIC</td>
<td>1 tab of 500 mg/24 h</td>
<td>10 d</td>
</tr>
<tr>
<td>Ciprofloxacin</td>
<td>CIPRO</td>
<td>1 tab of 500 mg/12 h</td>
<td>10 d</td>
</tr>
</tbody>
</table>

- **Antimicrobial in patients >35 years** of age to cover coliform bacteria (**E. coli**). Use any of the following combinations, beginning parenterally, depending on the symptoms, and continuing with oral administration. High resistances of **E. coli** to **Fluoroquinolones** must be taken into account.

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Brand name®</th>
<th>Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefonicid</td>
<td>MONOCID</td>
<td>1 inj of 1 g/d</td>
<td>24-48 h</td>
</tr>
<tr>
<td>Cefixime</td>
<td>SUPRAX</td>
<td>1 tab of 400 mg/d</td>
<td>10 d</td>
</tr>
<tr>
<td>Cefotaxime</td>
<td>CLAFORAN</td>
<td>1 inj of 1 g/d</td>
<td>24-48 h</td>
</tr>
<tr>
<td>Cefuroxime axetil</td>
<td>ZINNAT</td>
<td>1 tab of 500 mg/12 h</td>
<td>10 d</td>
</tr>
<tr>
<td>Ceftriaxone</td>
<td>CEFTRIAXONE</td>
<td>1 inj of 1 g/d</td>
<td>24-48 h</td>
</tr>
<tr>
<td>Cepodoxime</td>
<td>ORELOX, VANTIN</td>
<td>1 tab of 200 mg/12 h</td>
<td>10 d</td>
</tr>
<tr>
<td>Tobramycin</td>
<td>TOBRAMYCIN</td>
<td>1 inj of 100 mg/12 h</td>
<td>24-48 h</td>
</tr>
<tr>
<td>Cefuroxime axetil</td>
<td>ZINNAT</td>
<td>1 tab of 500 mg/12 h</td>
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</table>

- **In tuberculous epididymitis**: treatment with **Isoniazid**, **Rifampicin**, and **Pyrazinamide** for 6 months. (See chapter on Urogenital Tuberculosis).

- **In epididymitis caused by Calmette-Guérin bacillus**: treatment with **Isoniazid** and **Rifampicin** (these strains are resistant to **Pyrazinamide**).

- **In brucellar epididymitis**: any of the following

<table>
<thead>
<tr>
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<th>Oral dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rifampicin</td>
<td>RIMACTAN</td>
<td>1 tab of 600 mg/d</td>
<td>6 wks</td>
</tr>
<tr>
<td>Doxycycline</td>
<td>DOXYCYCLINE</td>
<td>1 caps of 100 mg/12 h</td>
<td>6 wks</td>
</tr>
</tbody>
</table>

- **In idiopathic epididymal pain**: rest, ice, scrotal elevation, analgesics, antiinflammatories, neuroleptics, or infiltration of the cord with 9 mL of **Lidocaine 1% + 1 mL (40 mg)** of **Methylprednisolone** (URBASON ®). (See chapter on Chronic Prostatitis).
Epididymo-orchitis

Gram stain
Urinalysis
Urine culture

Medical history
Physical examination
Scrotal ultrasound

Testicular torsion excluded

<35 years of age

Most common pathogen: *Chlamydia trachomatis*

Antimicrobials: 10 days
- **Ceftriaxone** 1 g im sd +
- **Doxycycline** 100 mg/12 h or
- **Fluorquinolones** (if allergy)

Complementary measures:
- Oral anti-inflammatory
- Ice
- Bed rest
- Scrotal suspension

>35 years of age

Most common pathogen: *Escherichia coli*

Antimicrobials: 10 days
- **Tobramycin** 100 mg im/12 h +
- **Cefuroxime** 500 mg/12 h or
- **Levofoxacin** 500 mg/12 h

Complementary measures:
- Oral anti-inflammatory
- Ice
- Bed rest
- Scrotal suspension

Medical history
Physical examination
Scrotal ultrasound

Testicular torsion excluded