Testicular torsion

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Background

- The age distribution of testicular torsion is bimodal; peak incidence in the neonatal period and a larger peak in puberty. ~65% of cases occur in boys between the ages of 12 and 18 years.
- Torsion represents the twisting of the spermatic cord resulting in venous compression; oedema of the affected testicle and cord; and ultimately testicular ischaemia. The chances of salvaging the testis are higher within the first six hours.
- Torsion is more likely with congenital inadequate fixation of the testis to the tunica vaginalis. The most common of these abnormalities is the ‘bell clapper’ deformity, which may be bilateral.
- In neonates, the tunica vaginalis is not attached to the scrotal wall, and torsion involves the whole testicle including the tunica vaginalis. Neonatal testicular torsion = prenatal, or up to 30 days after delivery. In older children the cord twists within the tunica vaginalis.
- Torsion may follow trauma.

Assessment

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Signs</th>
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<tr>
<td>Severe testicular or scrotal pain, which may radiate to the inguinal region or abdomen.</td>
<td>Tender testis</td>
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<td>Nausea and vomiting</td>
<td>Oedema and swelling of testis</td>
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<td>Episodic pain, which may indicate preceding intermittent torsion.</td>
<td>Horizontal lie of affected testis</td>
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<td>Elevated testis</td>
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<td>Erythema of hemiscrotum</td>
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<td>Scrotal oedema</td>
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<td>Absence of cremasteric reflex</td>
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Investigation:

- The definitive investigation for cases of likely testicular torsion is surgical exploration, and imaging should not delay this.
- All boys presenting with an acute scrotum should have urinalysis.
- Doppler ultrasound has been found to be a useful adjunct in the evaluation of the acute scrotum where physical findings are equivocal. The presence of testicular flow does not exclude torsion. Ultrasound may also provide information on the viability of tortured testes, influencing the decision regarding orchidectomy. Doppler ultrasound has a significant false negative rate, and must not delay definitive surgical exploration and de-torsion.
Differential diagnosis

- Torted hydatid of Morgagni
- Epididymo-orchitis
- Idiopathic scrotal oedema
- Incarcerated inguinal hernia
- Testicular trauma
- Testicular neoplasia

Management

Initial:
1. Triage category: Amber
2. Ensure the child is nil by mouth
3. All cases of suspected testicular torsion should be urgently reviewed by the surgical team.
4. Analgesia as appropriate
5. Consent for surgery
   - Exploration and fixation
   - Orchidectomy if testicle not viable
   - Impaired growth of testis due to ischaemic insult, even if testicle viable
   - Bleeding
   - Infection
   - Fixation of contralateral testis

Surgical management
References


- Hittelman A. Neonatal testicular torsion. In: UpToDate, 2010 [Available from UpToDate on BSUH computers]