

TESTICULAR TORSION(TORSION TESTIS)

DEFINITION

- It is a condition that occurs when the spermatic cord twists cutting the blood supply to the testis
- ❖ **It is a surgical emergency**

ANATOMY

- The tunica vaginalis covers the anterior and the sides of the testis
- The back of the epididymis and the posterior surface of the testis covered by the epididymis are not covered by tunica vaginalis
- A normal testis is therefore fixed within the tunica vaginalis and cannot twist
- However, there is variability to which the tunica vaginalis covers the body of the testis

TYPES OF TESTICULAR TORSION

1) EXTRAVAGINAL TORSION

- The spermatic cord and tunica vaginalis twist as a single unit
- Usually occurs in neonatal period
- It is rare

2) INTRAVAGINAL

- Spermatic cord twists while suspended in the tunica vaginalis
- It occurs in older children, adolescents and young adults
- **It is the commonest type**

PREDISPOSING FACTORS

1. CONGENITAL ABNORMALITIES OF THE TESTIS

- They are the commonest
- They include:
 - a) **High investment of tunica vaginalis**, which causes the testis to hang within the tunica like a clapper in a bell('The bell clapper testis')
 - b) **Long mesochium**(fold of tunica vaginalis between the testis and epididymis) with total separation of epididymis from the testis
 - c) **Inversion of the testes**- Is the most common predisposing factor. The testis is rotated so that it lies transversely or upside down

Cont.

2. Powerful contraction of Cremaster muscle

that rotates the cord and the testis. This contraction can be precipitated by:

- a) Straining on stool
 - b) Lifting heavy weights
 - c) Coitus/sexual activity
 - d) Bicycle and horse riding
- ❖ However, torsion can occur during sleep

Cont.

3. Ectopic and mal-descended testis

- The mechanism is still unclear but for intra-abdominal testis, it is attributed to the spastic contraction of Cremaster muscle and continuous and numerous movements of intestinal loops which modify the position of the testis suspended freely from the spermatic cord

INCIDENCE

- Presents most commonly in teenager, but as the cause is congenital abnormality, it can occur in young children, neonates and even in utero
- It is most common between the ages of 10-25 years
- It is very uncommon in men above 25 years and unknown in men over 40 year of age

CLINICAL FEATURES

SYMPTOMS

1) Pain

- Sudden agonizing pain in the groin, loin and the lower abdomen
- Severe pain and tenderness in the testicles follows the abdominal pain, but the abdominal pain may be absent or forgotten

2) Nausea and vomiting

- ### 3) In a baby
- there may be history of restlessness and failure to feed

Cont.

4) Previous attacks

- The patient may give history of similar mild attacks of pain, which subsided spontaneously, or an episode on the other side which required surgery
- Recurrent torsion is possible if the testis had not been secured properly

5) History of a predisposing factor e.g.

blow/ trauma on the scrotum as the boy jumps onto a bicycle

Cont.

SIGNS

1) Site/Position

- The swelling is confined to the scrotum
- The affected testis lies higher in the scrotum than the normal testis (most important sign)

2) Colour

- The overlying skin may be normal, or red or oedematous. The onset of redness of the skin occurs after 6 hours

3) Temperature

- The skin will be hot if it is red and hyperaemic

Cont.

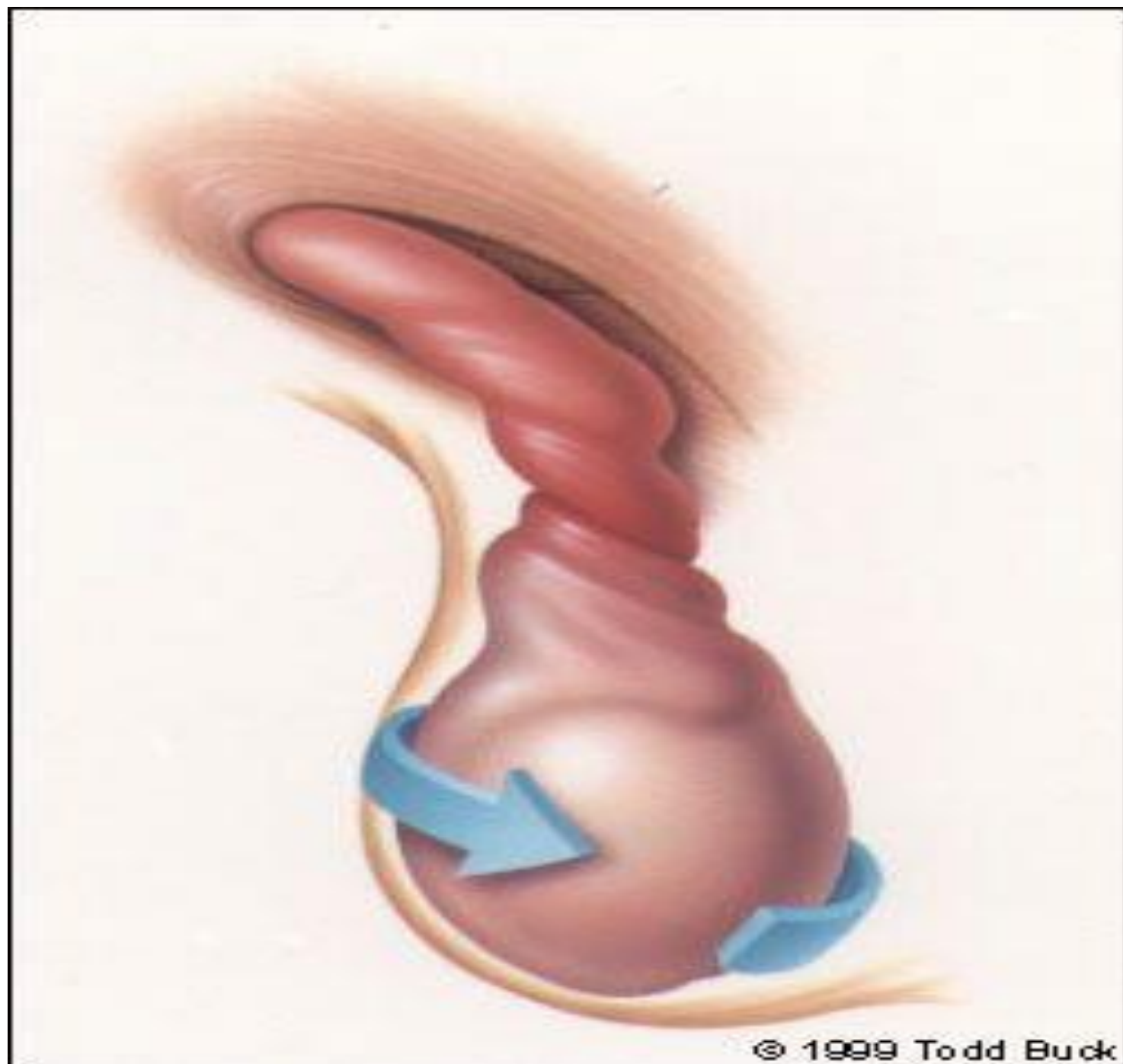
4) Tenderness

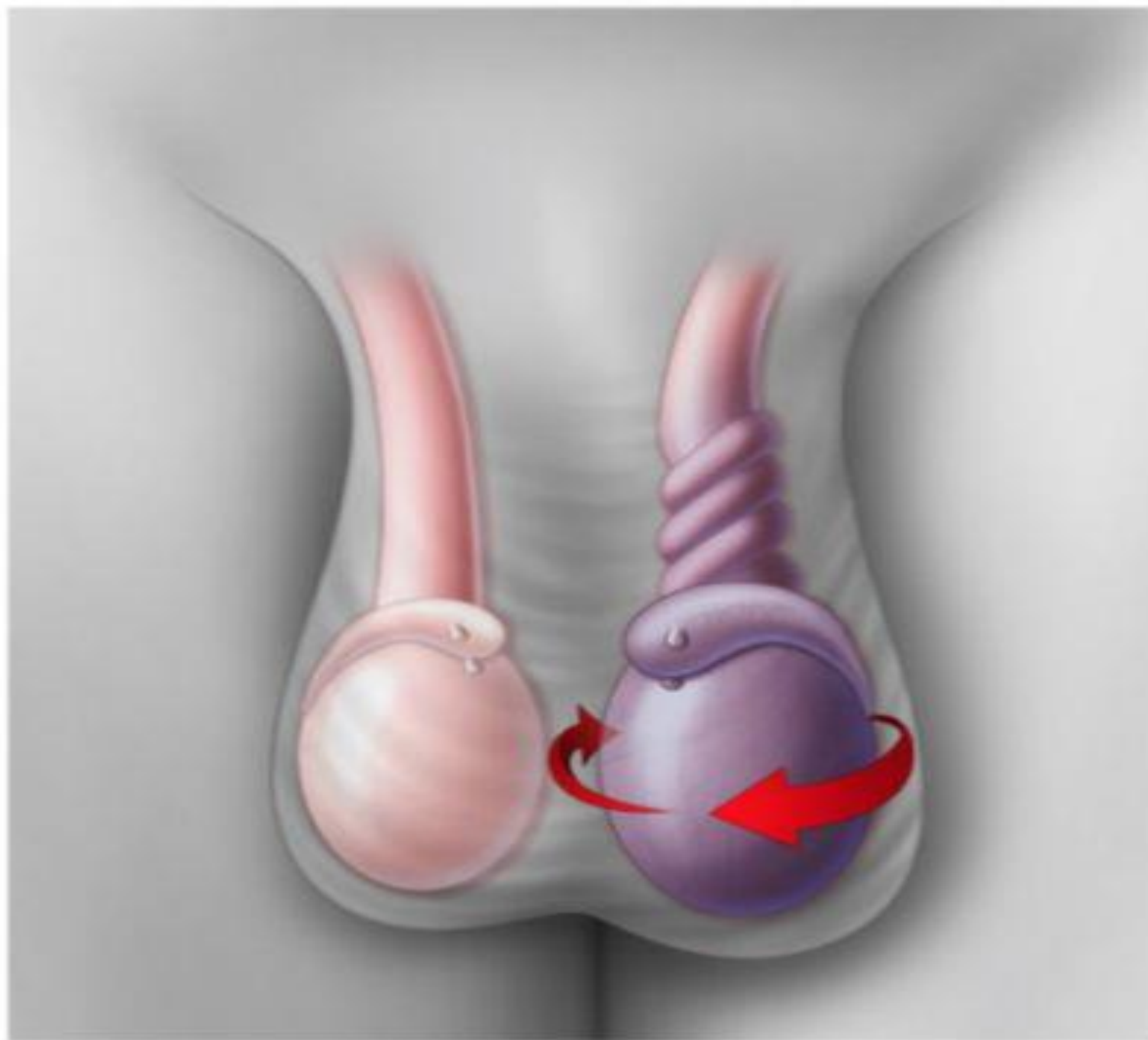
- The testis is extremely tender making palpation very difficult

5) Shape and surface

- The whole testis is swollen and it's usually impossible to distinguish the contour of the epididymis from those of the body of the testis
- The surface is smooth but may be obscured by scrotal oedema

6) Surrounding tissues- except for scrotal skin which may be red and oedematous, the other nearby tissues, including the other testis will be normal









DIFFERENTIAL DIAGNOSES

1. Acute epididymo-orchitis
 - Elevation of testis reduces pain in epididymo-orchitis and makes it worse in torsion
2. Strangulated inguinal hernia
3. Torsion of testicular appendages
4. Scrotal tumours
5. Traumatic haematoma
6. Traumatic rupture
7. Idiopathic testicular infarction

INVESTIGATION

❑ **Doppler ultrasound-** It confirms the absence of blood supply to the affected testis.

NB:

- Performing this test may squander vital minutes resulting to irreversible damage to the affected testis
- If there is doubt about the diagnosis, the scrotum should be explored without delay

TREATMENT

- 1. In the first hour or so, it may be possible to untwist the testis by gentle manipulation**
 - If the manipulation is successful, pain subsides and the testis is out of danger
 - However, arrangements should be made for early operative fixation to avoid recurrent torsion
- 2. Surgical fixation for:**
 - Those who come after one hour
 - Failure of manipulation and after successful manipulation
- 3. Orchiectomy/orchidectomy-** For non viable testis

COMPLICATIONS

1. Castration by neglect is the commonest

- Fertilization capability disappears after 4-6 hours and hormone synthesis stops after 10-12 hours

2) Torsion causes testicular damage, resulting

in breakdown of the blood barrier. This leads to release of hidden antigens which may stimulate an immune response and release of auto-antibodies. This destroys both the normal and affected testis

- This will result in exocrine and endocrine insufficiency
and testicular atrophy