Normal and abnormal testis

The normal testis

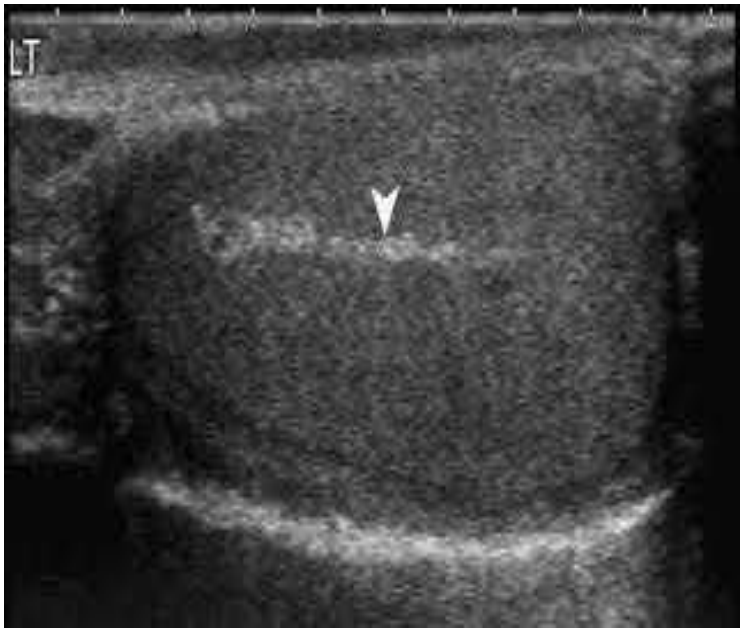
The normal testis is oval, homogeneous and hyperechogenic

1. The average length in the adult is 5.0 cm.
2. The average width is 3.0 cm.
3. The average transverse diameter is 2.0 cm.

The mediastinum of the testis appears as an avascular echogenic line

The epididymis lies on the inferior aspect of the testis and it is more echogenic than testis. It has three part head, body and tail

the head is routinely identified at posterolateral to the upper pole of the testis.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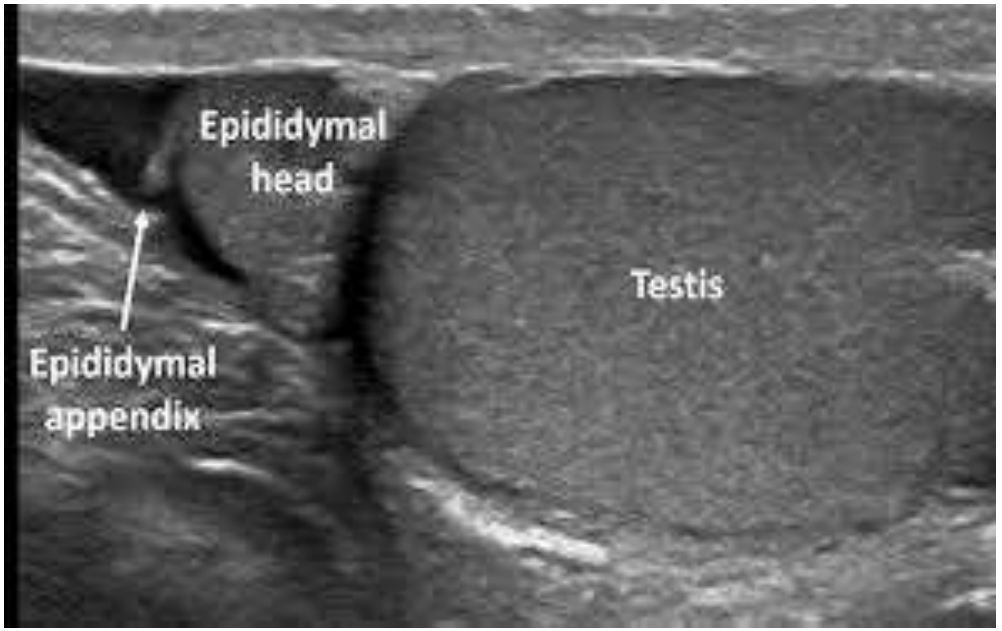
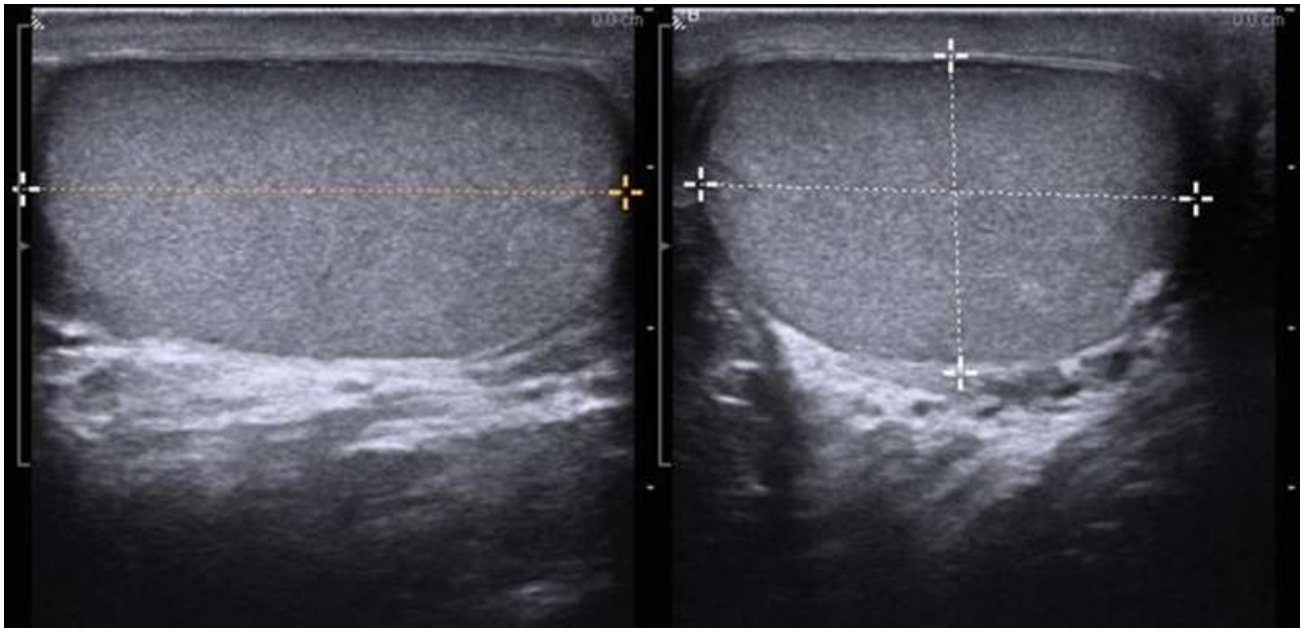

Epididymal
head
Testis
Epididymal
appendix



Abnormal scrotum

1-Unilateral swelling

Swelling on one side of the scrotum may be due to:

1. Hydrocele. Fluid in the scrotum will surround the testis with an echo-free region.

If the fluid is due to inflammation or trauma, there may be internal debris (internal echoes). The testis must be carefully examined to exclude underlying malignancy.

2 . Trauma and torsion of the testis.

3. Hernia.

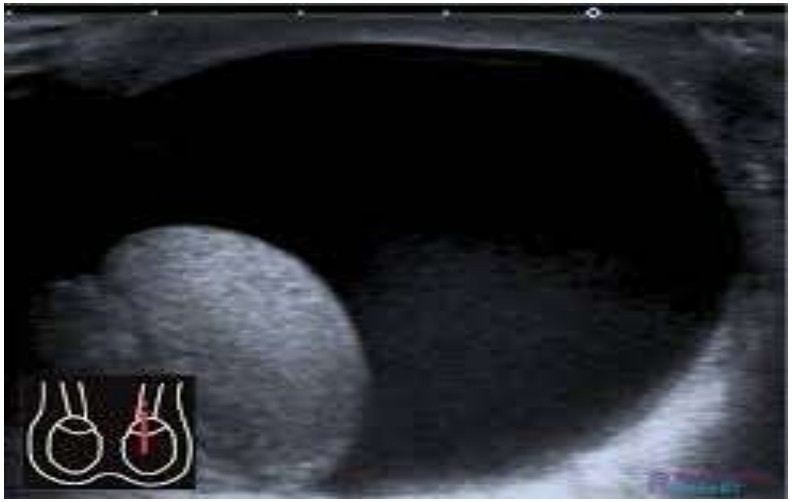
4. Varicocele.

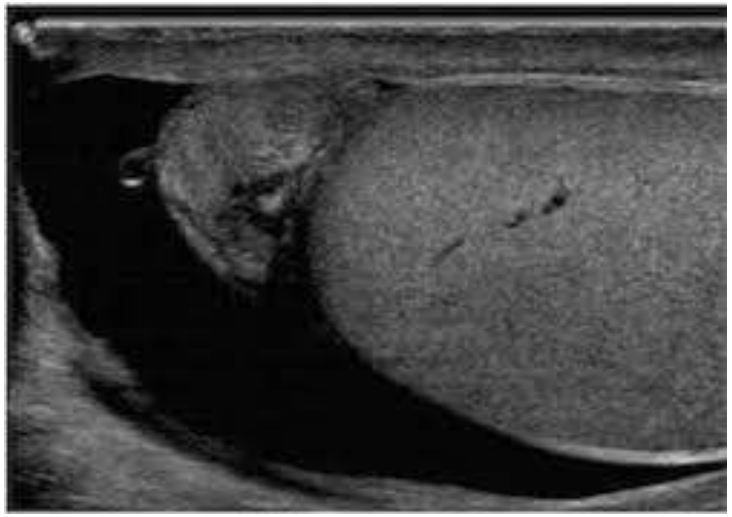
5. Testicular mass, e.g. tumour or infection.

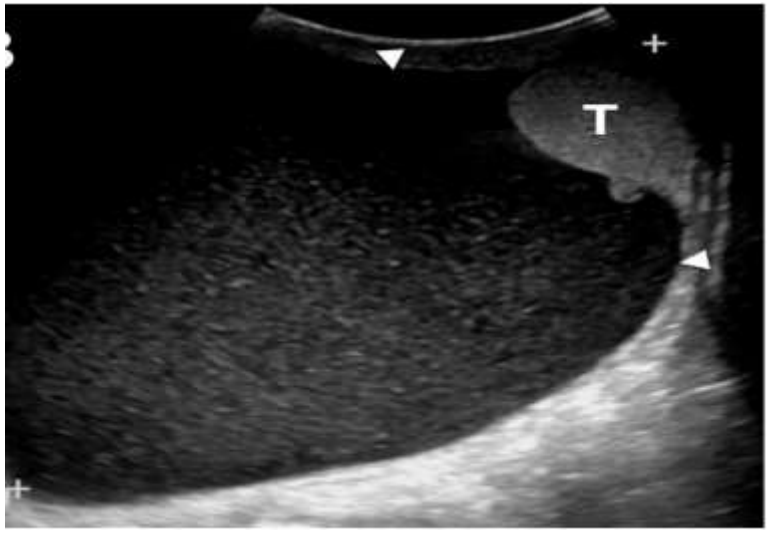
The majority of testicular tumors are malignant. The tumors may be hypoechogenic or hyperechogenic

Even when the two testes are of equal density, gentle compression may show a small tumor not demonstrated by routine scanning.

1-Hydrocele







2- testicular trauma

*** Scrotal trauma patients present with acute pain, and accurate diagnosis is necessary to minimize complications and prevent loss of the testis.**

*** Associated extra testicular injuries (e.g. epididymis rupture, epididymitis, scrotal wall hematoma, hematoceles) can also commonly occur.**

*** Following injury, the testis may be enlarged or remain normal in size.**

*** The injured testis may show complex echogenicity, especially when there is an internal haematoma.**

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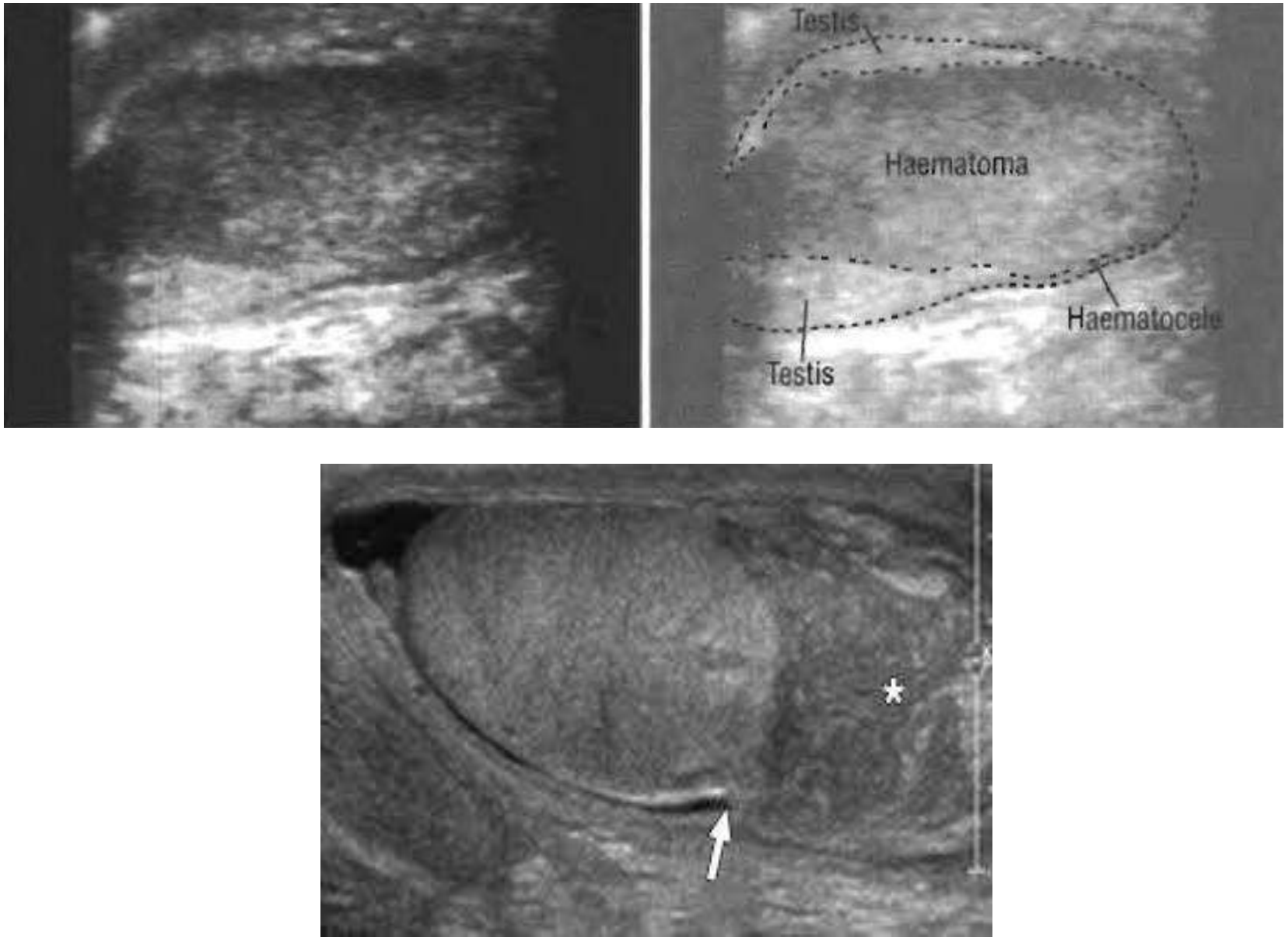
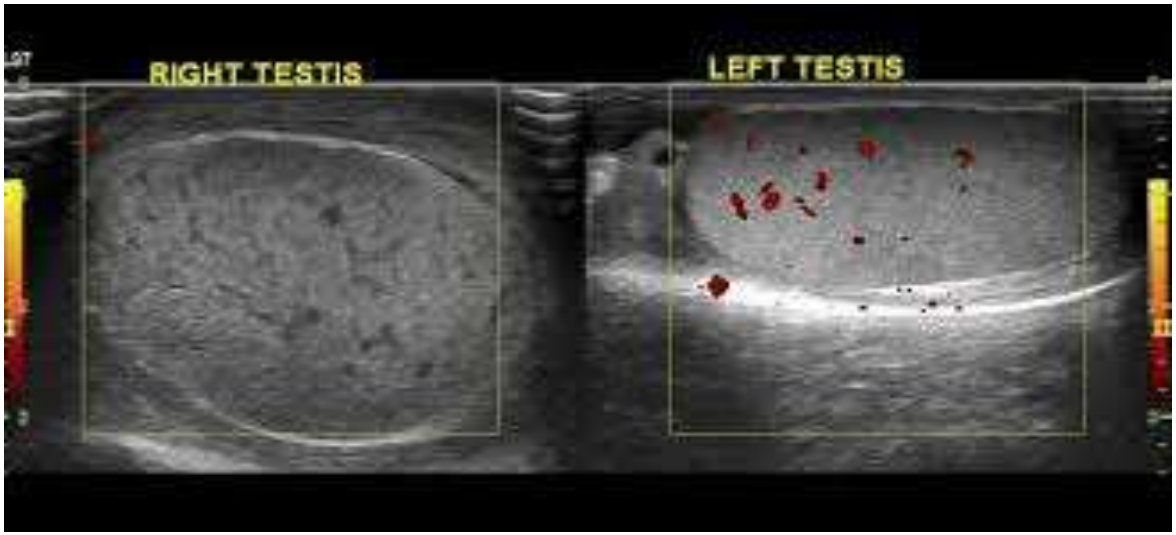

Testis
Haematoma
Haematocele
Testis
*

3- Torsion of the testis

It may be difficult to confirm torsion of the testis with ultrasound (incomplete torsion) , but if the rotation has disrupted the normal blood supply, ultrasound will demonstrate:

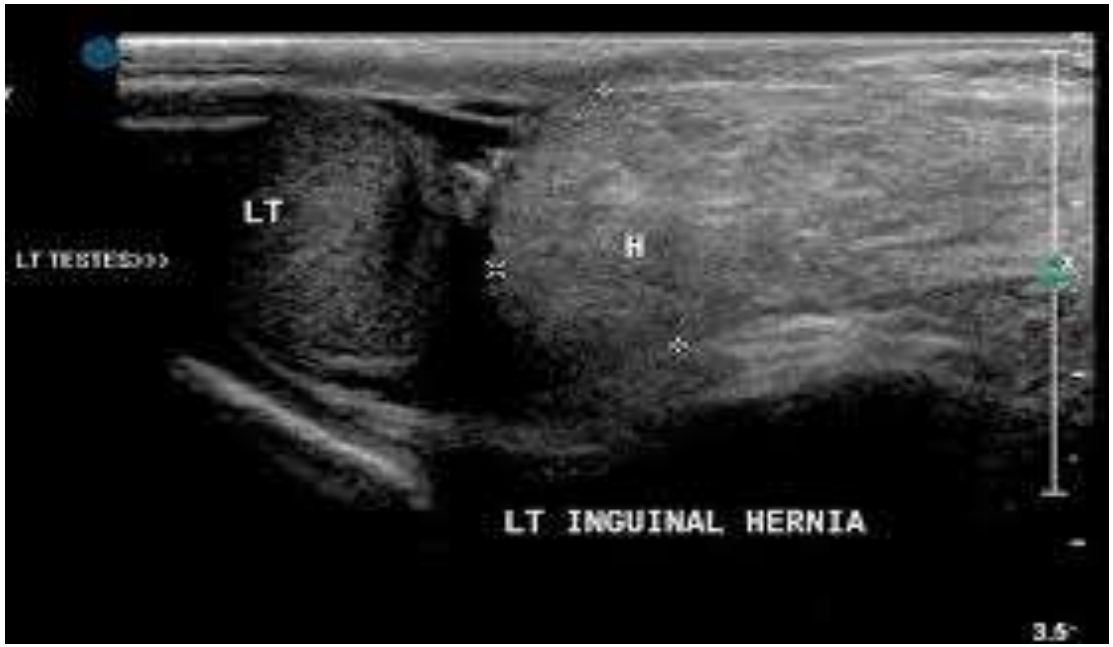
a. decreased echogenicity, compared with the normal testis

b. associated scrotal fluid (hydrocele).



4- Hernia

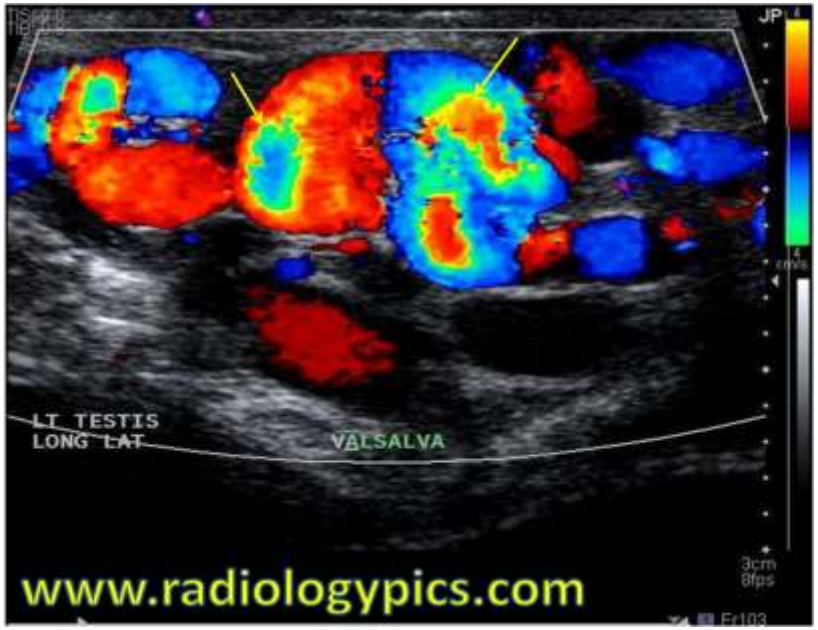
Omenta, mesentery or intestinal loops that have prolapsed through an inguinal hernia into the scrotum ,usually associated with a small hydrocele.



5-Varicocele

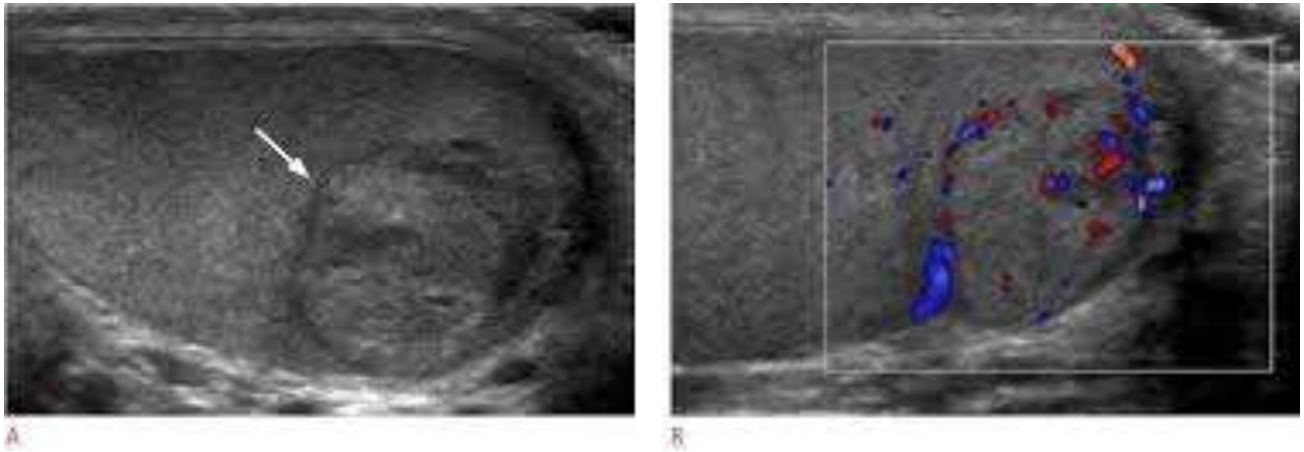
When the veins draining the testis and epididymis are dilated, ultrasound will demonstrate multiple tortuous, tubular, hypoechoic structures around the periphery of the testis.

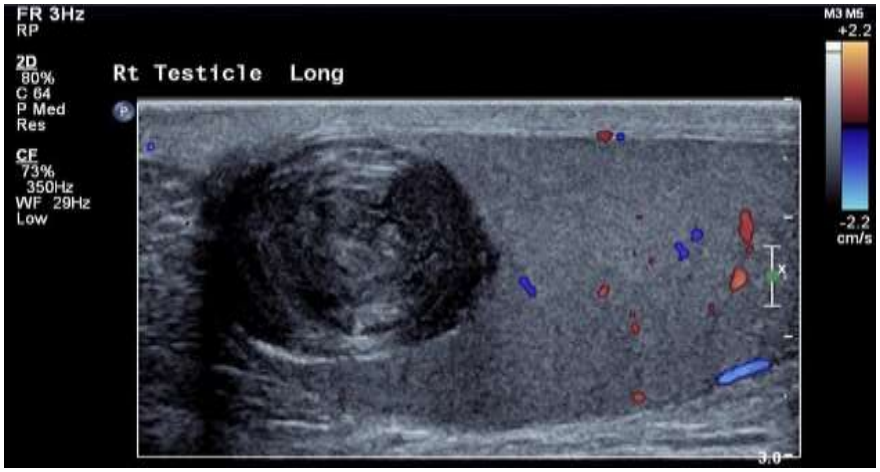
Varicocele is more common on the left side.



Testicular mass

- e.g. tumor or infection
- tumors may be hypoechoic or hyperechoic





Small or absent testis

- **Failure to demonstrate a testis in the scrotum with ultrasound indicates that the testis is absent**

If clinical examination of the inguinal canal reveals a mass, ultrasound can demonstrate the location and size of the mass, but may not be able to differentiate testicular tissue from an enlarged lymph node

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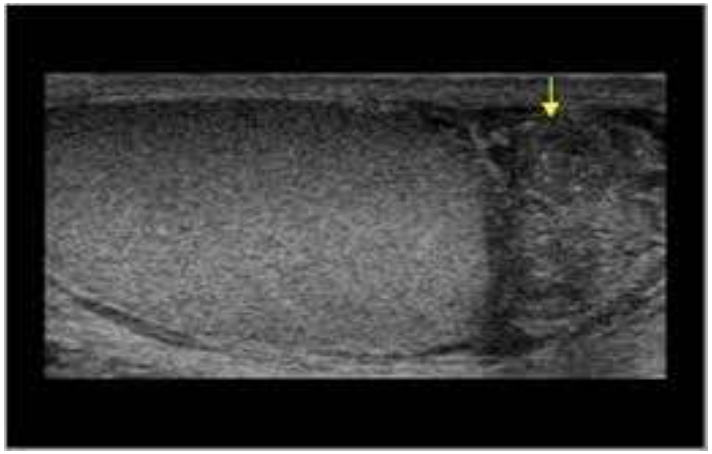
The epididymis

1 epididymitis : Ultrasound will demonstrate an enlarged and hypoechoic epididymis on the affected side.



2-Cyst in the epididymis