Chapter 12

Ultrasound of the Scrotum

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US can be very useful in children, especially in the case of a swollen, painful scrotum. It should be emphasized, however, that any clinical or sonographic indications of an acute surgical condition should lead to an exploratory operation without delay.

1 Technique

We use a 7 MHz short focused probe. The testis is immobilized either on a towel or manually. The scanning must be gentle and explore completely the testis and epididymis, in longitudinal and transverse scans. The setting should be made carefully to provide an homogeneous echostructure of the gland. The appearance of normal scrotum contents is identical to that in adults. The controlateral scrotum should always be studied comparatively.

2 Material

The number and diagnosis of the cases studied are given in the following list:

- Testis torsion 6
- Morgani's appendix testis torsion 10
- Hydrocele 10
- Cyst of the cord 2
- Orchitis 4
- Orchiepididymitis 2
- Inguinal hernia 2

Tumors: Lymphoma 1
- Pseudolymphoma 1
- Recurrence of acute lymphoblastic leukemia 4
- Paratesticular rhabdomyosarcoma 1
- Hormone secreting tumor (precocious puberty) 1
- Inflammatory pseudotumor (calcified testicular parasite) 1
- Ectopic testis 35.

3 Comments

The diagnosis of hydrocele is easily made (Fig. 1). Lymphoma (Fig. 2) and pseudolymphoma ap-

Fig. 1. A large hydrocele in a 14-year-old boy. Longitudinal scan of the right scrotum.
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Fig. 2. A 9-year-old boy with a large palpable right iliac fossa mass and a small right inguinal mass. 
   a Longitudinal scan of the right inguinal canal. 
   b Transverse scan of both inguinal regions. The right testis is enlarged, its echogenicity is markedly decreased (arrows). Burkitt’s lymphoma of the ileocecal region and right testis. One notes the inguinal location of both glands in this patient.

Fig. 3 a and b. A 10-year-old boy after, completerelase of acute lymphocytic leukemic for 3.5 years. Recent enlargement of the right testis. 
   a Longitudinal scan of the right testis. 
   b Comparative longitudinal scan of the left testis. Biopsy of right testis shows evidence of leukemic recurrence.

Pear, as in other parenchymas, as hypoechoic lesions. Testicular leukemic recurrences, on the other hand, can present only as an enlarged testis of normal echogenicity (Fig. 3).

Morgani’s appendix torsion is illustrated sonographically by a normal testis topped by a small distinct mass, adjacent to the epididymis head (Fig. 4). This latter diagnosis implies, in most cases, nonsurgical treatment, emphasizing therefore the importance of its recognition.

In torsion of the testis, the gland becomes markedly swollen, hypoechoic (edematous) initially, then hyperechoic (infarced) after a few hours (Fig. 5). The major differential diagnosis of torsion testis is represented by the inflammatory changes of orchitis, epididymitis, and orchiepididymitis. It is then important to show the involvement of both the testis and the epididymis. Obviously one can encounter equivocal cases (Fig. 6); let us repeat that any diagnostic doubt must lead to emergency surgery. The sonographic search for ectopic testes has been, in our experience, a failure in most cases with the exception only of the inguinal canal (Fig. 2).