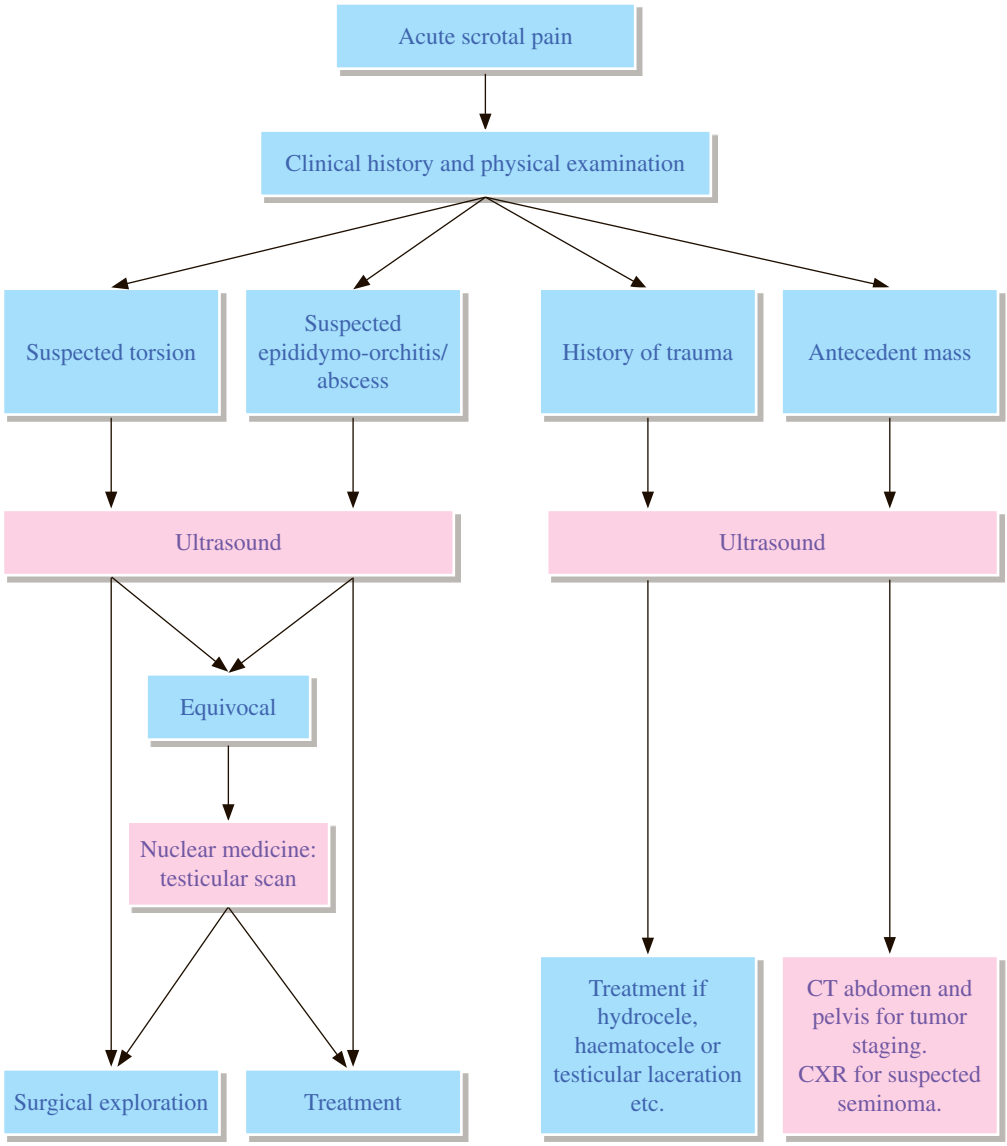
UR 8 Acute scrotal pain



REMARKS

1 General

1.1 For surgery to be successful, the diagnosis of acute torsion must be established within 4-8 hours from the onset of pain.

1.2 Patients in whom there is strong clinical suspicion for testicular torsion can be promptly referred for scrotal exploration.

2 US

2.1 The studies should include both the scrotum and inguinal areas.

2.2 US can localize a scrotal swelling to see whether it is arising from the testis or from the epididymis and to distinguish a varicocele from a hydrocele.

2.3 Color Doppler US can reliably assess blood flow within the testis. Blood flow is markedly reduced or absent in torsion of testis but is increased in epididymo-orchitis. In adults, with careful study and appropriate equipment, the specificity is close to 100%. Overall sensitivity is about 90%. False negatives may be found in incomplete torsion (less than 180 degrees) and in spontaneous de-torsion. Color Doppler US should be used in cases of suspected torsion or epididymo-orchitis.

2.4 Imaging in clinically equivocal cases may lead to an early diagnosis of testicular torsion and thus decrease the number of unnecessary surgeries.

3 Nuclear medicine

3.1 Testicular scan has 90% sensitivity and 98% specificity in assessing testicular torsion.

3.2 Testicular scan is uncommonly requested nowadays given the high accuracy of US. It may be used when diagnosis is less likely and if torsion of the testis still cannot be excluded from history and physical examination. This should be done without inordinate delays for emergency intervention.

3.3 Problems in examination performance may arise in infants and very small children whose genitalia are small and therefore difficult to image. Its poor anatomical detailing, and the time required for radionuclide scrotal imaging examinations are also limiting factors.

4 MRI

4.1 Techniques are not typically used for the acute scrotum due to the limited availability of equipment and the long examination time involved. However, the use of MRI in scrotal diseases is increasing. A retrospective study reports that MRI has 93% sensitivity and 100% specificity for diagnosing testicular torsion.

4.2 The most sensitive finding in torsion is decreased or lack of perfusion on dynamic contrast-enhanced MRI.

REFERENCES

1. Dogra V, Bhatt S. Acute painful scrotum. Radiol Clin North Am. 2004; 42: 349–363.
2. Lam WW, Yap TL, Jacobsen AS, Teo HJ. Colour Doppler ultrasonography replacing surgical exploration for acute scrotum: myth or reality? Pediatr Radiol. 2005; 35: 597-600.
3. Liang T, Metcalfe P, Sevcik W, Noga M. Retrospective review of diagnosis and treatment in children presenting to the pediatric department with acute scrotum. AJR Am J Roentgenol. 2013; 200: W444-W449.
4. Morey AF, Brandes S, Dugi DD, Armstrong JH, Breyer BN, Broghammer JA, et al. Urotrauma: AUA Guideline. J Urol. 2014; 192: 327-335.
5. Remer EM, Casalino DD, Arellano RS, Bishoff JT, Coursey CA, Dighe M, et al. ACR Appropriateness Criteria® acute onset of scrotal pain: without trauma, without antecedent mass. Ultrasound Q. 2012; 28: 47–51.
6. Riccabona M, Darge K, Lobo ML, Ording-Muller LS, Augdal TA, Avni FE, et al. ESPR Uroradiology Taskforce— Imaging recommendations in paediatric uroradiology, part VIII: retrograde urethrography, imaging disorder of sexual development and imaging childhood testicular torsion. Pediatr Radiol. 2015; 45: 2023-2028.
7. The Royal College of Radiologists. iRefer: Making the best use of clinical radiology. 8th ed. London: The Royal College of Radiologists; 2017. Section U12.