INTRODUCTION:

Scrotal ultrasound (US) may be useful in the identification and evaluation of structures within the scrotum. Scrotal abnormalities may be the result of disease, injury, or a physiologic anomaly.

APPROPRIATE INDICATIONS FOR A SCROTUM AND CONTENTS ULTRASOUND:

- Abnormality noted on other imaging studies (e.g., computed tomography, magnetic resonance imaging, positron emission tomography)
- Intersex conditions
- Male infertility
- Occult primary tumor detection in patients with metastatic germ cell tumor
- Palpable inguinal or scrotal mass
- Potential scrotal hernia
- Suspected testicular torsion
- Follow up of previous indeterminate scrotal US
- Undescended testes
- Scrotal asymmetry, swelling, or enlargement
- Scrotal pain
- Varicocele
- Trauma

INDICATIONS FOR SURVEILLANCE:

- Prior primary testicular neoplasms, leukemia, or lymphoma

ADDITIONAL INFORMATION RELATED TO ULTRASOUND OF THE SCROTUM

Scrotal abnormalities may be the result of disease, injury, or a physiologic anomaly. Abnormalities within the male reproductive tract may appear as scrotal masses or as intersex conditions. Masses may be of little significance or may represent life-threatening illnesses. Examples of these include inguinal or scrotal hernias, tumors, varicocele, acute epididymitis or epididymo-orchitis, a torsioned spermatic cord or testicular appendage. Physical examination in combination with appropriate imaging of these tissues is important, as a surgical versus nonsurgical diagnosis must be clearly identified, especially in patients experiencing acute pain without having a history of trauma or previous scrotal mass.
An inguinal or scrotal hernia occurs when intestinal loops and/or omentum passes through thin or weakened spots in the groin muscle, resulting in a bulge in the groin or scrotal area. A scrotal mass may be an accumulation of fluids; abnormal tissue growth; or the swelling, inflammation, or hardening of the normal contents of the scrotum. A mass may be cancerous or caused by another condition.

A varicocele is the result of valvular dysfunction of the veins along the spermatic cord, which prevents the proper flow of blood and swelling or widening of the veins.

Epididymitis is inflammation of the epididymis, the tube that connects the testicle with the vas deferens. Male infertility may be affected by testicular abnormalities such as microcirculation impairment, ischemia, or disease pathology.

Testicular torsion occurs when a testicle rotates, twisting the spermatic cord that brings blood to the scrotum. The reduced blood flow causes sudden, and often severe, pain and swelling.

Undescended testicles are the failure of the testicles to descend through the inguinal canal into the scrotum before birth. US has not been shown to be effective in the localization of undescended testes.

Testicular injuries can be divided into 3 broad categories based on the mechanism of injury. These categories include (1) blunt trauma, (2) penetrating trauma, and (3) degloving trauma. Such injuries are typically seen in males aged 15-40 years. Scrotal ultrasonography with Doppler flow evaluation is particularly helpful in determining the nature and extent of injury. This is especially true in blunt trauma cases, given the difficulty of scrotal examination and the repercussions of missing a testicular rupture.
REFERENCES


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