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Guidelines, Policies and Statements

Guidelines for the Performance of Scrotal Ultrasound

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1. Introduction

1.1. Purpose

These guidelines are intended to assist practitioners performing ultrasound studies of the scrotum. It is acknowledged that it is not possible to detect every abnormality or condition present, however, it is anticipated that adherence to the following parameters will help maximise consistency, accuracy and the probability of detecting most of the abnormalities that occur in the scrotum.

1.2. Scope/Applicability

These guidelines are applicable to all ultrasound practitioners.

1.3. Background

Ultrasound examination of the scrotum is valuable in differentiating testicular (usually malignant) from extratesticular (usually benign) masses. Ultrasound is also helpful in the assessment of male infertility, the acute scrotum, scrotal trauma, chronic pain and in the management of cryptorchidism.

2. Indications

Indications for scrotal ultrasound include, but are not limited to, the following:

a) Evaluation of scrotal pain, including but not limited to testicular trauma, ischemia/torsion, and infectious or inflammatory scrotal disease.

b) Evaluation of palpable inguinal, intrascrotal or testicular masses

c) Evaluation of scrotal asymmetry, swelling or enlargement

d) Evaluation of potential intrascrotal hernias

e) Detection/evaluation of varicoceles

f) Evaluation of male infertility

g) Follow-up of prior indeterminate scrotal ultrasound findings

h) Localisation of nonpalpable testes

i) Detection of occult primary tumours in patients with metastatic germ cell tumors, positive tumor markers (such as AFP, bHCG, LDH) or unexplained retroperitoneal adenopathy

j) Follow-up of patients with prior primary testicular neoplasms, leukemia or lymphoma

k) Evaluation of abnormalities noted on other imaging studies (including but not limited to computed tomography [CT], magnetic resonance imaging [MRI], and positron emission tomography [PET])

l) Evaluation of a disorder of sexual development

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3. Imaging Technique

It is helpful to palpate any clinically apparent lesion before scanning the patient. Images of both hemiscrota in transverse, sagittal and/or coronal planes should be obtained, together with a transverse scan comparing both testes. The ultrasound findings should be correlated with the clinical findings.

4. Equipment

High quality, high frequency transducers should be used (7MHz to 15MHz range). Colour and spectral Doppler is essential to assess torsion or epididymo-orchitis.

5. Anatomical Evaluation

5.1. Testis

a) size
b) shape
c) echotexture (compared with contralateral testis)
d) capsule
e) mediastinum testis (location to assess rotation)
f) vascularity
g) appendix testis (seen in the presence of a small hydrocoele)

5.2. Epididymis

a) assess head, body and tail
b) size
c) echotexture
d) vascularity
e) appendix epididymis (occasionally seen if hydrocoele is present)

5.3. Other Scrotal Anatomy

a) spermatic cord
b) tunica vaginalis
c) scrotal wall
d) pampiniform plexus assessment for varicocoele

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6. Evaluation of Intratesticular Masses

a) dimensions
b) borders (well defined, irregular, poorly defined)
c) calcifications
d) cystic, solid or complex
e) echogenicity compared with normal testis
f) vascularity and assessment for anatomical vascular distortion (useful for diagnosing intratesticular tumours)

7. Evaluation of Extratesticular Masses

a) hydrocoele, haematocoele and pyocoele
b) varicocoele (size and location)
c) scrotal hernia
d) epididymal lesions (cyst, spermatocoele, acute inflammatory mass, granuloma, solid tumours)
e) scrotal wall assessment for swelling, oedema, collection, abscess formation or diffuse infective process (Fournier's gangrene).

8. The Acute Scrotum

The differential diagnosis of an acutely painful and swollen scrotum includes torsion of the spermatic cord and testis, torsion of the testicular appendage, epididymitis and/or orchitis.

B-mode ultrasonic findings of acute torsion have been found to be variable and are not specific. Pulsed and colour Doppler are required to help differentiate torsion from epididymo-orchitis.

In the setting of presumed epididymo-orchitis, an abnormality of testicular architecture (with the exception of a simple cyst) should be followed up with ultrasound to ensure an occult testicular tumour is not the underlying cause.

9. Related/Supporting documents

The following documents are required to give effect to these guidelines:

1. ASUM G04 Guidelines for Reprocessing Ultrasound Transducers.

10. References

The following documents inform these guidelines:
1. American Institute of Ultrasound in Medicine (AIUM). AIUM practice parameter for the performance of scrotal ultrasound examinations. 2015.

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2. American Institute of Ultrasound in Medicine (AIUM). AIUM practice guideline for the performance of scrotal ultrasound examinations. Guideline developed in collaboration with the American College of Radiology, the Society for Pediatric Radiology, and the Society of Radiologists in Ultrasound. J Ultrasound Med. 2015;34(8):1-5. DOI: 10.7863/ultra.34.8.15.13.0006

3. Appelbaum L, Gaitini D, Dogra VS. Scrotal ultrasound in adults. Semin Ultrasound CT MR. 2013;34(3):257–273.

4. Mirochnik B, Bhargava P, Dighe MK, Kanth N. Ultrasound evaluation of scrotal pathology. Radiol Clin North Am 2012;50(2):317–332, vi.

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