Clinical Guideline

SCROTAL PATHOLOGY

SETTING	Primary and Secondary Healthcare Institutions in the Western Cape which refer to Red Cross War Memorial Children's Hospital (RCWMCH)
FOR STAFF	Primary and Secondary Doctors and Nurses who refer patients to RCWMCH
PATIENTS	Patients under the age of 13 years old with scrotal pathology

Introduction

Scrotal pathology can be thought of as any pain, swelling or erythema of the scrotum. The first thing that needs to be done when assessing scrotal pathology is to differentiate between the "Acute Scrotum" and a scrotum which is swollen or red, but non-acute.

The purpose of this guideline is to assist healthcare professionals working in primary and secondary care with the assessment, management and appropriate referral of scrotal pathology.

Background

The most important factor to identify in the patient's presentation is the presence of testicular pain. If there is new onset testicular pain, the patient likely has an acute scrotum and the management needs to be swift. In this case the underlying cause may not always be fully defined prior to the decision to urgently transfer the patient for further assessment by a surgeon.

Acute scrotum is a common complaint in male children, and it is always regarded as an emergency. All males, of any age, with sudden onset, severe testicular pain should be referred to a unit that can assess the patient and undertake a scrotal exploration if indicated.

The reason why acute scrotum is managed very aggressively is that there is a significant risk of testicular torsion in males with sudden onset testicular pain. It is difficult to establish the diagnosis on clinical grounds alone and a delay in management can lead to testicular necrosis.

The non-acute, swollen scrotum can be due several reasons, many of which are not an emergency. In this case it is the referring healthcare professional's duty to establish the most likely diagnosis and then to either manage the patient or refer the patient appropriately.

Patients with swollen or enlarged scrotums that are not painful, do not need to be managed in this aggressive way. Not all swollen scrotums are acute scrotums and therefore some will not need urgent referral to a surgical service. A careful clinical examination will filter these patients out and allow for further assessment and then an alternative management plan.

Important details on history

Is there any pain?

- How suddenly did the pain start?
- When exactly did the pain start?
- Is there a history of previous similar pain?

Is there a history of recent trauma?

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Is there a current or recent viral illness or fever?

Does the patient have a history of urinary tract infections (UTIs) or a condition which would predispose to UTIs?

- Spinal dysraphism
- Congenital genitourinary abnormalities
- Chronic constipation

Important details on examination

Is the cremaster reflex present?

Can you feel the testis?

- Is the testis itself tender or not?
- Is the pain on one side or on both sides?
- Where is the testis situated?
- What angle is the long axis of the testis facing?

Is there oedema of the scrotum?
Is there a swelling coming down from the external ring?
Are there features of illness or pyrexia?
Was there any vomiting or diarrhoea?

What does the urine dipstick show?

Management and referral guidelines for acute scrotum

Patients with a presentation should be assessed by a doctor or a nurse who is experienced in paediatric care. Making the assessment that a scrotum is non-acute requires careful examination and if there is any doubt then urgent referral to the nearest hospital which can do a scrotal exploration in the paediatric population is appropriate.

All patients that are assessed to have acute scrotum based on severe, sudden onset scrotal pain should have an urgent referral to the nearest hospital which can do a scrotal exploration in the paediatric population. This may be a non-tertiary level hospital in some more remote areas.

Before referral:

- Instruct the patient not to eat
- Provide analgesia
- Do a urine dipstick if this will not cause delay
- Counsel the patient and his parents as below
- DO NOT do a doppler ultrasound unless specifically requested by an experienced surgeon who is going to take responsibility for the ongoing care of the patient.

What to tell the patient and his parents

The three most likely causes for the pain are:

1. A testicle that has twisted on its pedicle
2. A small testicular ‘tag’ or appendage that has twisted
3. Inflammation or infection of the testicle

It is difficult to say what the diagnosis is on history & examination alone.

In all likelihood, the team at the referral hospital will perform a scrotal exploration to determine the diagnosis, to detort & pexy the torted testicle, & to pexy the contralateral testicle to prevent future torsion that side too.

If the testicle has been torted for a long time, lack of blood flow & oxygen may have already caused it to become necrotic, which may necessitate its removal, or may result in long-term atrophy. The chance of this is particularly high if the testicle has been torted for more than 8 hours[2], & almost certain if it has been torted for more than 24 hours[1].

If the testicle or its appendage is not torted, a pus swab will be taken & the patient will be treated for epidydimo-orchitis & worked up as for any patient with a urinary tract infection.

The operation is usually uneventful, there are seldom complications, & most patients are discharged within 24 hours[2].

Regarding future fertility:

- Studies show that the rate of pregnancy & time to pregnancy in couples where the male had testicular torsion is the same as in the general population[4]
- Men with previous testicular torsion are not a major contributor to the population of infertile males[5]
- We don't have all the answers yet.

Management and referral guideline for non-acute scrotum

After your assessment, you should be able to differentiate between an acute and a non-acute scrotum. If the scrotum is swollen but non-tender at all then it is not an acute scrotum. It is now time to decide what the underlying diagnosis is. The differential diagnosis for a swollen scrotum is tabulated below with guidance on the management on each diagnosis.

Differential diagnosis	Clinical features	Management guidance
Inguinal hernia	Swelling starts from the level of the external inguinal ring. May become obstructed.	Please see separate guideline entitles "inguinal pathology".
Hydrocele	Scrotal swelling which you can get above and transilluminates. Cannot cause bowel obstruction.	
Gonadal tumour	Non-tender, enlarged testis. Testicular size is usually asymmetrical. Patient may have features suggestive of precocious puberty	Clear documentation of clinical findings, including features of secondary sex characterstics. Case to be discussed with paediatric surgical team for further assessment
Paratesticular rhabdomyosarcoma	Non-tender, enlarged scrotum with a mass in the paratesticular space. The patient may have features of wasting and weightloss	Clear documentation of clinical findings. Case to be discussed with paediatric surgical team for further assessment
Oedema and anasarca	Patient with other features of oedema and swelling. Common	Further work up to identify the underlying medical cause and then

	in patients with other significant systemic disease.	referral to appropriate paediatric medical speciality.

References

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