Ultrasonographic appearance of the "acute scrotum" in Henoch-Schönlein disease: two case report and literature review

G. del Pozo, M. M. Miralles, V. Lozano, and J. Boned

1 Department of Radiology, Hospital 12 de Octubre, Cra de Andalucía km 5,400 E-28041-Madrid, Spain
2 Department of Radiology, Hospital "Ramon y Cajal", Madrid
3 Department of Radiology, Hospital FFAA del Aire, Madrid

Abstract. There is only one previous reference in the radiological literature describing the ultrasound (US) appearance of male genitalia involvement in Henoch-Schönlein disease (HSD). Very rarely the "acute scrotum" may be the first symptom and could lead to a testicular torsion misdiagnosis. We report two cases of acute scrotal involvement in two patients with HSD, in one of whom the involvement was bilateral accompanied by general symptoms of HSD. In the other it was unilateral and isolated making it difficult to differentiate from testicular torsion. The US appearance, with normal or minimally affected testis, is useful in differential diagnosis.

Key words: Henoch-Schönlein - disease — Scrotum, ultrasound studies — Testicular torsion

Introduction

Henoch-Schönlein disease (HSD) is a systemic vasculitis of small vessels affecting young children. The clinical syndrome is characterised by a purpuric rash, glomerulonephritis, gastro-intestinal bleeding and polyarthritis [1]. Other organs, such as the male external genitalia, may also be involved occurring in ca. 10% of HSD cases [2].

We report the clinical and sonographic features of two children with acute scrotal swelling who were treated conservatively.

Case reports

Case 1

A 4-year-old boy was admitted to hospital with arthralgia and rash of the lower extremities. Five days later the patient suffered scalp oedema, abdominal pain and vomiting, and finally developed bilateral scrotal swelling. On physical examination, the scrotum was swollen and tender with petechiae. At this time a diagnosis of HSD was made. Scrotal sonography (US) (Fig. 1 a, b) was performed with a sectorial electronic 7 MHz transducer. The examination showed bilateral thickening of both scrotal wall and epididymis (5 and 9 mm respectively) and a minimum hydrocele (Table 1). Testes were poorly delimited but of normal size. The patient was treated with prednisone wherein all symptoms disappeared after 15 days.

Case 2

A 6-year-old boy was admitted to hospital with abdominal pain, vomiting, arthralgia of the left ankle and a cutaneous rash on thighs and buttocks. HSD was diagnosed and treated with prednisone. As a result of the benign evolution, he was discharged from hospital after 8 days. Ten days later the patient returned with acute pain and swelling of the left testicle. Testicular torsion was suspected. An US scan performed with a 7 MHz sectorial electronic transducer 10 h after the onset of symptoms showed a remarkable thickening of both scrotal wall (8 mm) and epididymis (9 mm), minimal hydrocele and a scarcely enlarged and heterogeneous left testicle compared with the unaffected right (Table 1). The epididymis showed some hyperechoic areas suggesting haemorrhage (Fig. 2 a, b). Considering the diagnosis of HSD and the US findings revealing minimal testicular involvement, haemorrhagic epididymitis was diagnosed. Symptoms cleared after 6 days of conservative treatment. A control US scan at that time was normal.

Discussion

HSD is a systemic vasculitis affecting small vessels, mainly involving skin, joints, gastro-intestinal system and kidneys [3]. Although HSD may occur at any paediatric age and sex, there is a predilection for males aged 2–8 years. Al-
though virtually any organ can be affected, scrotal involvement is rare: 46 cases published in the non-radiological literature and only one US citation [4-12]. Vasculitis of scrotal vessels may produce thickening of the scrotal wall, as well as inflammation and haemorrhage of the epididymis. Testicular changes are less common [7, 8].

When the involvement is bilateral or coincidental with other symptoms of HSD, as in our first case, the differential diagnosis is reduced. But if it is unilateral and isolated and, above all, if it precedes the diagnosis of HSD, it is much more difficult to rule out testicular torsion. The high rate of surgical interventions performed revealed that 17 (38 %) of the 46 HSD cases published underwent surgery and only one had testicular torsion [10]. Another had appendix testis torsion [11].

The diagnostic modalities currently used to evaluate the acute scrotum include scintigraphy, US and colour-Doppler procedures [12, 13]. Recent reports suggest that colour US is at least as accurate as scintigraphy in diagnosing testicular torsion [14, 15]. However, conventional US examination is an accepted routine diagnostic method in the evaluation of "acute scrotum", with well-known patterns [16].

The US findings in our cases (Table I) were: generalised thickening of scrotal wall which may show a heterogeneous appearance; epididymis enlargement with some very echogenic areas (Fig.2), revealing focal haemorrhage; minimal hydro- or haematocele; slightly altered or normal testicular size and echogenicity.

Nevertheless, the haematocele may be more prominent and may contain hyperechoic septations [7]. A more extensive surgically proven case of testicular involvement has already been published [17].

US follow-up and conservative management will show complete resolution in a short time; normally between

Fig.1a and b. Case 1. a Axial view: bilateral scrotal involvement with thickened wall (black arrowheads, 5 mm) and epididymis (white arrows, 9 mm) b Sagittal view: poorly delimited right testis (arrowheads) with epididymal thickening (*).

Fig.2a and b. Case 2. Left scrotal sac. a Axial view: thickened scrotal wall (white arrows, 8 mm) and epididymis (black arrowheads, 9 mm) with hyperechoic areas (*) representing focal haemorrhage. Minimal hydrocele b Sagittal view: minimal enlargement and heterogeneity of the testis (+) Thickened scrotal wall (white arrowheads).