

# The strange case of a hematocele mistaken for a neoplastic scrotal mass

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## Abstract

Hematoceles are usually associated with a history of scrotal trauma, are usually painful and rarely have an idiopathic origin. We describe the peculiar case of a hematocele mistaken for a testicular cancer.

## Introduction

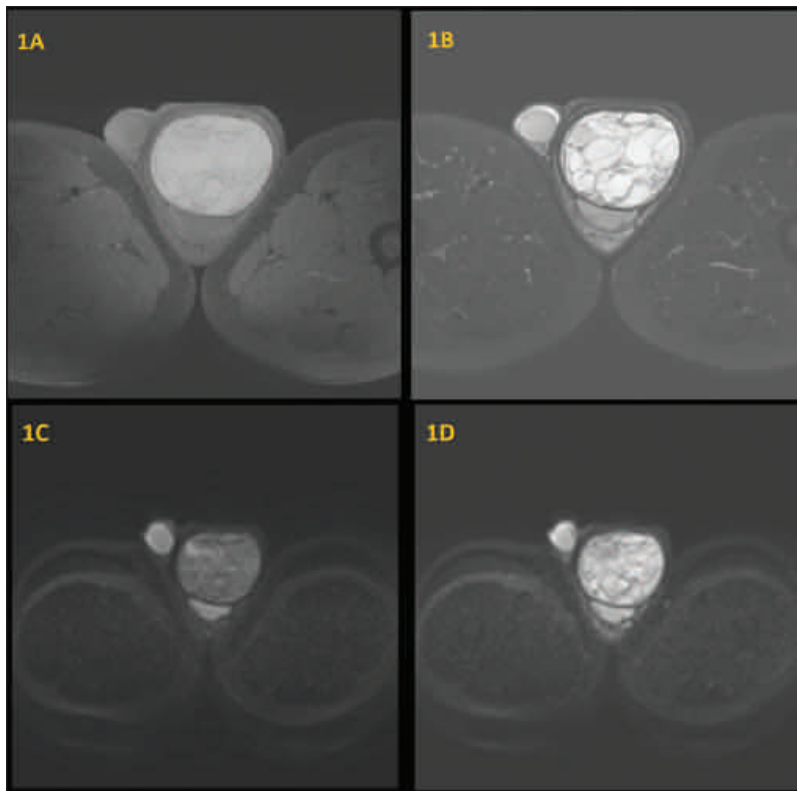
Several conditions can cause painless scrotal swelling. A malignancy must be always ruled out when a firm mass is discovered within testicular parenchyma.<sup>1</sup> Hematoceles are commonly associated with a history of scrotal trauma, usually characterized by scrotal pain and acute onset.<sup>1</sup> Rarely, hematoceles can be idiopathic with a mild onset, following spontaneous bleeding.<sup>2</sup> In such cases, the only symptom can be that of a firm and painless scrotal mass, incidentally discovered by the patient. The differential diagnosis with a testicular tumour can become very tricky, even after an ultrasound evaluation. We describe the peculiar case of an idiopathic hematocele, which was mistaken for a testicular cancer, prompting surgical excision.

## Case report

A 58-year-old male presented to the emergency department with a large, painless left scrotal mass. He had no history of genital trauma, nor did he complain about any other symptoms. He had noticed a slow, progressive enlargement of the left hemi-scrotum since the age of 26, when he underwent a left varicocelectomy. In the last few months, he had begun to feel a bothering weight sensation in the scrotum, and discovered a firm mass that occupied the left hemi-

scrotum. He was otherwise in good health. Clinical examination confirmed a tense, regular, volleyball-size scrotal mass which did not transilluminate. Blood test results were normal, including testicular markers (beta-human chorionic gonadotropin [beta-HCG], alpha-fetoprotein [alpha-FP], and lactate dehydrogenase [LDH]). Scrotal ultrasound revealed a multilocular appearance of the left scrotum with thick septa surrounding some anechoic areas and some hyper-echoic structures. The left testis was not evaluable morphologically. Given the inconclusive examination, a magnetic resonance imaging (MRI) was performed, revealing a left scrotal mass measuring 12 × 7 cm. This lesion, inhomogeneous and multiseptated, had high-signal intensity on T1 (Fig. 1, part A) and T2-weighted (Fig. 1, part B) images, with several hypointense areas on long-TR sequence. Diffusion weighted imaging sequences did not show higher signal except for a 2.5-cm-area in the mid-testicle (Fig. 1, parts C and D).

At MRI, the left testicle was surrounded and compressed by this mass, although it did not show clear signs of infiltration. Given the MRI images, the diagnostic hypothesis was that of a cystic-haemorrhagic formation in continuity with the vaginal sac, strongly suspicious for a neoplastic mass. The patient underwent surgical exploration through a left inguinal access. The left spermatic cord was swollen; the testis, together with its mass, was very difficult to isolate and detach from the dartos layers. Macroscopically, the testis was almost swallowed by the mass, which had a necrotic-haemorrhagic appearance. The testis did not appear to be viable and the presence of cancer was strongly suspected. Radical orchi-funiculectomy was performed. The postoperative course was uneventful, and the patient was discharged on postoperative day 2. At pathological examination, the lesion was ellipsoidal and well-defined, measuring 8 × 13 cm. Cutting sections showed friable tissue, cavitations in a reticular pattern, soft brown hemorrhagic material, and fibrin (Fig. 2, part A). The lesion replaced almost entirely the testicular parenchyma (Fig. 2, part B). Microscopically, a dense fibrous capsule of



**Fig. 1.** Magnetic resonance images: (A) T1 sequences; (B) T2 sequences; (C-D) diffusion weighted imaging sequences.

connective tissue with chronic inflammation surrounded a hemorrhagic cystic area with septa, containing amorphous-bloody material (Fig. 2, part C) and macrophages (Fig. 2, part D). The final diagnosis was hematocele.

## Discussion

Clinical examination is essential in the evaluation of scrotal pathologies, in cases of both painful and painless scrotal masses. The ultrasound can be helpful for the differential diagnosis of a painless scrotal swelling, including varicocele, hydrocele, and inguinal hernia. The most important goal is to rule out testicular cancer. When cancer is suspected, the physician should explore surgically.<sup>3</sup>

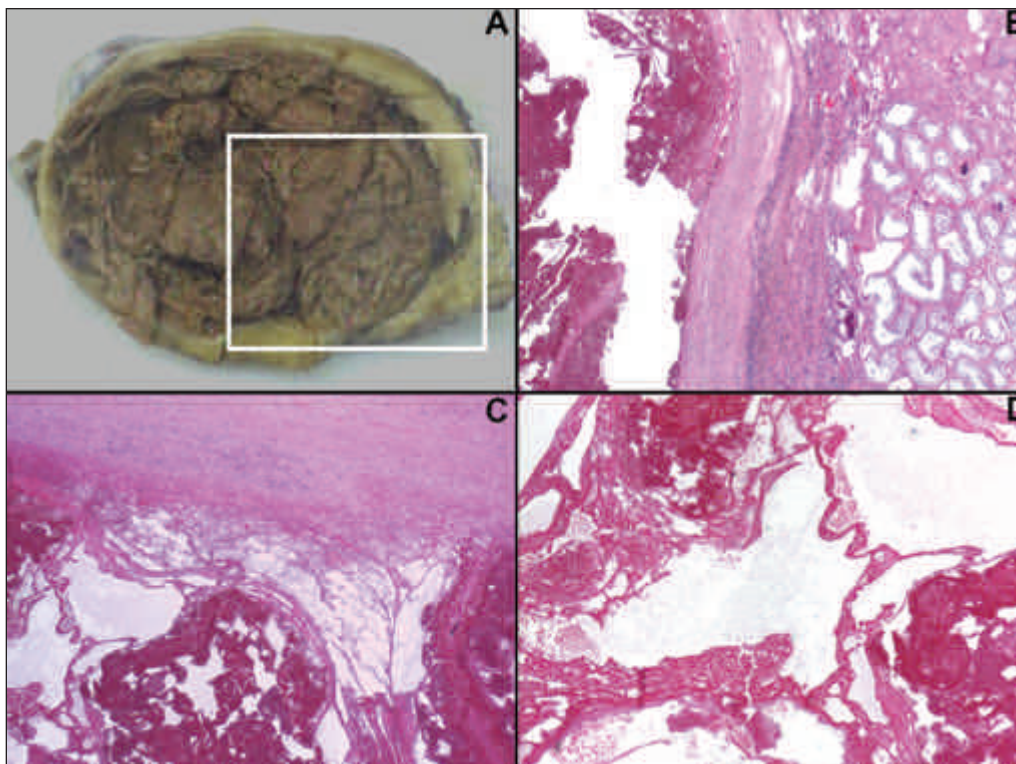
Patient history is usually very helpful for the diagnosis, especially in cases of previous trauma. That is the case of the hematocele, which results from the accumulation of blood within the vaginal sac, usually as a consequence of trauma.<sup>2,4</sup> Very rarely, hematoceles originate from idiopathic or spontaneous bleeding, especially in elderly patients.<sup>1</sup> Blood slowly accumulates in the vaginal sac, with a progressive, painless scrotal swelling. This non-traumatic hematocele can be produced also by coagulation disorders or vasculitis.<sup>5</sup> The organized blood clots in the vaginal sac give origin to a firm, scrotal mass that can reach remarkable size.<sup>6,7</sup>

In our patient, the etiology of the hematocele was unknown, in the absence of predisposing conditions or

previous trauma. The only hint was the previous varicocelectomy, although his postoperative course was uneventful. In our case, where the ultrasound was inaccurate, the MRI was useful in the diagnosis.<sup>4</sup> However, even an MRI can lead to false conclusions. Given the MRI images, we suspected a neoplasia originating from the tunica vaginalis, which prompted the execution of a radical orchifuniculectomy. In our case the lesion replaced almost entirely the testicular parenchyma, showing a variable appearance, friability, cavitations in a reticular pattern and soft brown hemorrhagic material and fibrin without evidence of neoplasia. The whole lesion was examined with macrosections, and the pathological features allowed the diagnosis of hematocele.

The correct management of hematoceles includes early recognition and complete evacuation of the hematoma. This management avoids testicular compression and prevents epididymo-orchitis abscess formation and necrosis, as unresorbed hematocele can eventually become infected.<sup>2,4</sup> When the presence of cancer is strongly suspected, a more radical approach with an inguinal incision is advisable. We decided not to perform intraoperative frozen-section examination as the testis did not appear to be viable, and the necrotic-hemorrhagic appearance of the mass strongly indicated cancer. Frozen-section examination is not flawless, as diffuse necrosis and hemorrhage can sometimes delay the pathologist's diagnosis.

Long-standing hematoceles easily become calcified and fibrotic, becoming firm and painless masses. Given their clin-



**Fig. 2.** Pathological findings: (A) Macroscopical view of the lesion; (B) fibrous connective capsule with chronic inflammation surrounding a haemorrhagic cystic area with septa; (C) macrophage and (D) amorphous-bloody mat.

ical features, idiopathic hematoceles may be easily mistaken for cancer. In the literature, only a few cases of idiopathic, chronic haematoceles are reported.<sup>1,4-6,8</sup> Orchifuniclectomy was performed almost invariably, as testicular cancer was impossible to rule out with certainty.

## Conclusion

The differential diagnosis of a firm, painless scrotal mass should include the possibility of a rare chronic hematocele, even in absence of trauma. MRI can be a useful diagnostic tool in the evaluation of scrotal masses, but sometimes can be misleading and it is better to rely on clinical findings. When the presence of testicular cancer cannot be ruled out, surgical exploration is mandatory.

**Competing interests:** The authors declare no competing financial or personal interests.

This paper has been peer-reviewed.

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