CASE REPORT

Segmental testicular infarction: diagnosis and strategy

Loïc Sentilhes, MD,[1] Frédérick Dunet, MD,[1] Denis Thoumas, MD,[2] Alain Khalaf, MD,[1] Philippe Grise, MD,[1] Christian Pfister, MD, PhD[1]

[1]Department of Urology, Rouen Charles Nicolle University Hospital, France
[2]Department of Radiology, Rouen Charles Nicolle University Hospital, France

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Objectives: *We report the usefulness of ultrasonography and magnetic resonance imaging (MRI) findings in testicular infarction, in order to avoid surgical exploration.*
Methods: *In December 2000, a 37-year-old African male presented with left testicular pain and no prior history of trauma. Physical examination, ultrasonography and MRI were performed by an experienced radiologist (D.T.), which suggested a segmental testicular infarction. Surgical exploration was not performed and a period of watchful waiting with evolution control by ultrasonography was decided.*
Results: *After a 3 month follow-up, the ultrasonography control revealed a total re-vascularization of the vessels and a reduction of the lesion size.*
Conclusion: *The authors suggest that the combination of ultrasonography and MRI, in the management of testicular infarction, may avoid invasive surgery.*

Key Words: testis infarction, ultrasonography, magnetic resonance imaging

Introduction

Segmental infarction of the testis is a rare aetiology of a benign testicular pathology. The main causes of testicular infarction are trauma, sequelae of epididymo-orchitis, polycythemia, hypersensitive angiitis, intimal fibroplasia of the spermatic artery, sickle cell anemia, Wegener's granulomatosis, and idiopatic aetiology.[1,2]

In most of the cases reported in the literature, the diagnosis was performed several days after the onset of symptoms, and surgical exploration was

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Address correspondence to Prof. Christian Pfister, Rouen Charles Nicolle University Hospital, 1, rue Germont 76031 Rouen - France

carried out in order to rule out malignancy.[3] We report a case of segmental infarction of the testis, where clinical examination, ultrasonography and magnetic resonance imaging (MRI), permitted a wait and see approach, and also avoided surgical exploration.

Case report

A 37-year-old African male was admitted to the Emergency Department in December 2000, for left testicular pain, which had endured for the previous 24 hours. The patient denied any history of trauma, dysuria, urethral discharge or fever. He was married with two children, and did not have any previous medical or surgical history. Physical examination was difficult due to the pain, but revealed no palpable testicular or epididymal bulk. Moreover, we observed no testicular infarction. Scrotal grey scale ultrasonography showed two testis in a normal location and volume (16 cc right, 18 cc left). On both sides, the epididymitis was entirely normal and no hydrocele or varicocele was found. The right testis was homogenous with normal vascularization using color Doppler imaging. A well defined peripheral hypoechogenic lesion was found in the upper pole of the left testis. Diameter was estimated to be 2 cm with well defined margins and without any testis deformation Figure 1. This lesion was homogenous and no vascular structure was present in the lesion using color Doppler sonography, in contrast with the lower pole of the left testis. These data were further confirmed by an intravenous injection of ultrasonographic contrast media (Levovist®, Schering AG, Berlin, Germany) Figure 2. The localized abnormality of the testis was not considered a tumor because of mass absence effect and no vascularization was present despite a sufficiently large mass.

A MRI was performed the same day, which demonstrated a well circumscribed abnormal area of the left testis. On T2 weighted images, the lesion was in hyposignal to the normal testis Figure 3 with regular margin and no gadolinium enhancement was observed on T1 weighted image Figure 4. Clinical, echosonography and MRI findings suggested segmental infarction of the left testis, as laboratory results, including complete blood count, with lactate deshydrogenase, urinalysis, α foetoprotein and ß human chorionic gonadotropin, were normal. On thoracic X ray no metastasis was observed. After 2

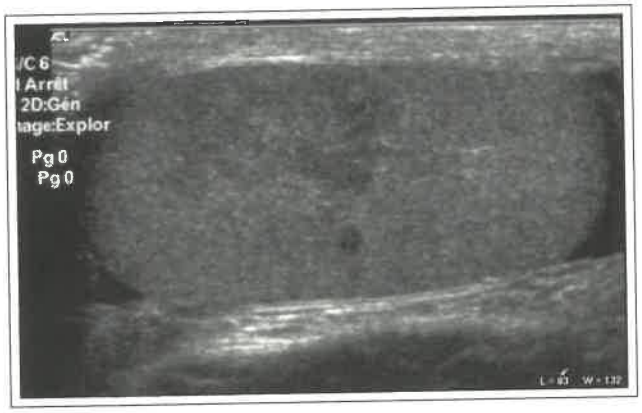

Figure 1. Sagittal view from scrotal sonogram shows a well demarcated lesion that is hypoechogenic relative to adjacent normal testicle. This lesion has not mass.

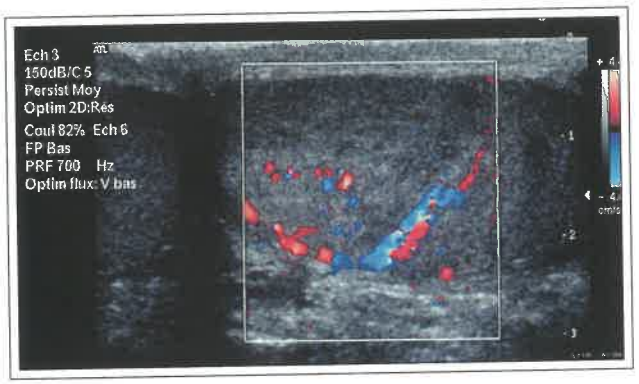

Figure 2. Sagittal view from scrotal color doppler sonogram after injection of contrast media. No vascularization could be observed in this lesion.

Figure 3. T2 weighted axial view of the left testicle. This lesion has clearly defined margin, is not nodular with geographic limitations.