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PENILE SYNOVIAL SARCOMA: CLINICAL AND RADIOLOGICAL FINDINGS

SARCOMA SINOVIAL DE PENE: HALLAZGOS CLÍNICO RADIOLÓGICOS

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INTRODUCTION

A 22-year-old man presented with a 6-month-old 8 cm hard tumor at the base of the penis, whose biopsy was consistent with synovial sarcoma (Figure 1). The magnetic resonance imaging (MRI) showed a tumor that compromises the base of the penis, the left pillar and partially the right pillar, extending to the distal 2/3, without ruling out urethral infiltration (Figure 1).

Penile sarcomas are rare neoplasms, with the epithelioid subtype being the most frequent histology[(1)]. This disease is characterized by rapid pulmonary progression despite multimodal treatment [(1,2)]. The diagnosis of synovial sarcoma is obtained by the presence of keratin (epithelial marker) in immunohistochemistry, which is positive in approximately 90% of cases; the differential diagnosis includes Peyronie's disease, balanitis and chronic inflammatory disease[(1,2,3)].

From a radiological perspective, synovial sarcoma involves calcifications in 30% of cases, as well as the presence of extrinsic bone erosion[(3)]. The tomography, performed to detect calcifications and bone involvement, revealed a soft tissue density mass with similar or lower attenuation than muscle, with the presence of necrotic and hemorrhagic areas, as well as heterogeneous post-contrast enhancement, which has been reported in 89% to 100% of cases[(3)].

Because of its higher spatial resolution, MR is the chosen modality for the study of mesenchymal neoplasms of the penis[(1)]. In this case, the lesion presented heterogeneous signal in the MRI, this is described as the triple sign, which consists of areas of low (calcifications or fibrosis), intermediate (solid cellular elements) and high signal (hemorrhage or necrosis), reported between 35% to 57% of cases (Figure 1)[(3)].

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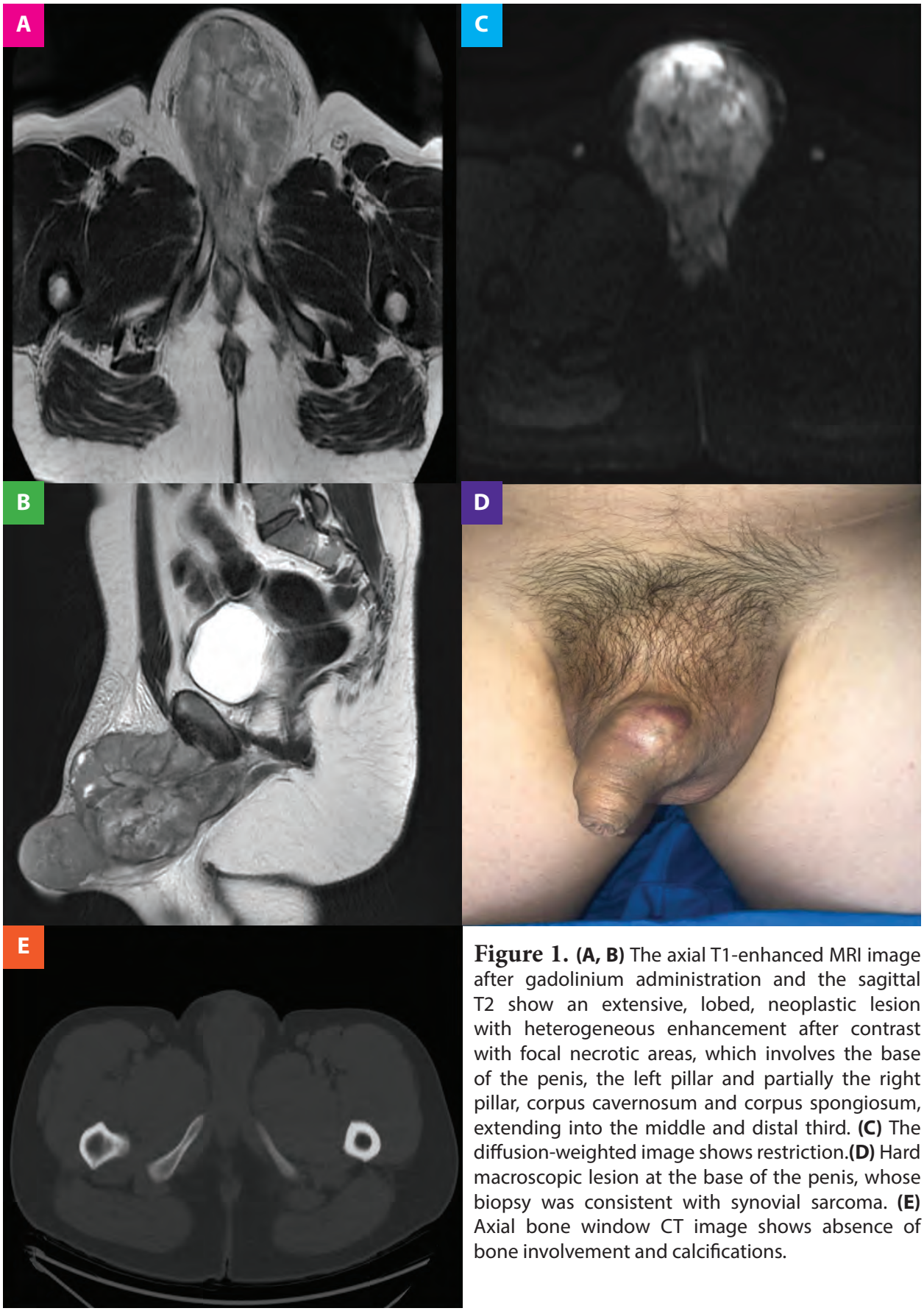

Figure 1. **(A, B)** The axial T1-enhanced MRI image after gadolinium administration and the sagittal T2 show an extensive, lobed, neoplastic lesion with heterogeneous enhancement after contrast with focal necrotic areas, which involves the base of the penis, the left pillar and partially the right pillar, corpus cavernosum and corpus spongiosum, extending into the middle and distal third. **(C)** The diffusion-weighted image shows restriction.**(D)** Hard macroscopic lesion at the base of the penis, whose biopsy was consistent with synovial sarcoma. **(E)** Axial bone window CT image shows absence of bone involvement and calcifications.

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