Primary sarcoma of the leptomeninges: unusual presentation and previously undescribed neuroimaging features

Sarcoma primário de leptomeninges: apresentação não usual e aspectos de neuroimagem previamente não descritos

João Vitor Gerdulli TAMANINI1,2, Fabio ROGERIO2, Laisson de Moura FEITOZA1, Thales André CARICATI1, Luciano Souza QUEIROZ2, Fabiano REIS1

A 30-year-old patient presented with generalized tonic-clonic seizures. Magnetic resonance imaging and microscopic examination are demonstrated in Figures 1 and 2.

Figure 1. A. A high relative cerebral blood volume (rCBV map) can be seen in the left temporal lesion (arrow) and is represented in green. B. T1-weighted post-gadolinium axial depicts lesion in left temporal lobe with necrotic center and a peripheral solid component with heterogeneous enhancement (arrow). C. ADC map exhibits true restricted diffusion in peripheral solid component of the lesion (arrow). D. Spectroscopy shows a significant elevation of the choline peak in 3.2 ppm (indicating increased cell turnover) and of the lipids/lactate peaks (necrosis/anaerobiosis markers) in 1.3 ppm (arrows).
Histological analysis led to the diagnosis of undifferentiated cerebral sarcoma of leptomeningeal origin. We illustrate a primary leptomeningeal sarcoma with hyperperfusion and high choline and lactate levels. Perfusion and spectroscopy are not yet discussed in the literature for these tumors.

Primary leptomeningeal sarcomas are aggressive tumors that account for 0.7% to 4.3% of intracranial neoplasm and mostly affect children1,2.

Our case merits attention due to an unusual presentation concerning age and lack of apparent relation with the meninges.

References
