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Amoebic encephalitis mimicking brain tumor: a rare differential diagnosis to be considered

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Introduction: Free-living amoebas are protozoan found worldwide in moist soil and freshwater, proliferating in summer when temperature increases. All species may cause central nervous system (CNS) infections, which are usually difficult to diagnose and have high mortality rate.

Methods: Report of an illustrative case and literature review.

Results: A 13 year old boy coming from Quixeramobim, state of Ceará at the northeast of Brazil was admitted on August 2013 following progressive right superior limb weakness and four short duration tonic-clonic. Overall state was good, he was conscient, alert and orientated. A computed tomography (CT scan) showed an irregular intra-axial mass lesion at the left parietal lobe, with mild enhancement after contrast injection, measuring 3 cm in the longer axis and presenting an important vasogenic perilesional edema. Regardless anticonvulsivants and corticosteroids, the patient had progressive aggravation, presenting disarthria, disorientation, right side facial central palsy, hemiplegia and finally aphasia and somnolence within a week. A Magnetic Resonance Image demonstrated a large right parietal mass lesion with low signal in T1 and hyperintensity in T2 and FLAIR. There was mild reinforcement after gadolinium injection. There was limited mass effect without midline shift. A cerebro-spinal fluid lumbar puncture was contra-indicated due to the risk associated in a huge mass lesion context. The hypothesis of a neoplastic or inflammatory lesion was made. Given the failure to achieve a definitive diagnosis, a brain biopsy was performed, which revealed amoebic encephalitis, with reactional gliosis, vascular proliferation and the presence of trophozoites. Although therapy with metronidazol was introduced and anti-edema measures optimized, there was degradation with coma and bilateral mydriasis. A CT scan showed no biopsy complication. After four days, brain death was detected.

Conclusion: Amoebic encephalitis is a rare entity mimicking more frequent mass lesions that must be considered in certain regions of the world.