

Stroke-like migraine attacks after radiation therapy (SMART) syndrome

Síndrome com crises de migrânea tipo acidente vascular cerebral após radioterapia (SMART)

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A 33-year-old, right-handed male with a left occipital hemangiopericytoma treated with resection/radiation (60 Gy) with resultant focal epilepsy, presented with severe left-sided headache, expressive aphasia/right homonymous hemianopsia and right-sided hemisensory deficits. The EEG was unremarkable. Initial MRI brain scans are shown in Figures A and B. He improved with analgesics and returned to his baseline in two weeks. The MRI was repeated after 16 days (Figure C). He was diagnosed with SMART syndrome, a rare and late complication of cranial irradiation^{1,2}. The pathophysiology is still unclear. The process seems to be driven

by cerebral hyperexcitability with impaired autoregulatory mechanisms and endothelial damage as a consequence of remote radiation¹. Clinico-radiological features are challenging. Differential diagnosis includes tumor recurrence, leptomeningeal carcinomatosis, infection, vascular disorders, mitochondrial encephalomyopathy with lactic acidosis and stroke, hemiplegic migraine, posterior reversible encephalopathy and post-ictal MRI changes. Duration of symptoms is variable (hours to weeks). Most reported cases have had full clinical and radiological recovery with symptomatic management; however, incomplete recovery may occur².

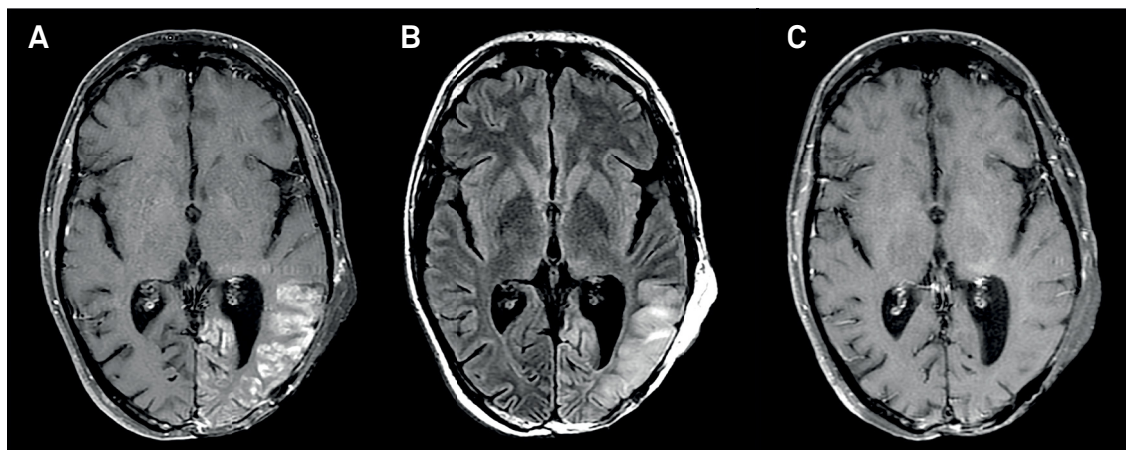


Figure. Axial T1-weighted post-contrast MRI brain image demonstrates unilateral diffuse gyriform cortical enhancement with associated grey matter thickening on axial FLAIR imaging in the left parietal/occipital lobes (A and B). Follow-up MRI brain (16 days later) showed completed resolution of the cortical enhancement (C) and improvement of the FLAIR abnormality (not shown).

References

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