

SMART syndrome: a late reversible complication of radiotherapy

Síndrome SMART: uma complicação tardia reversível da radioterapia

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A 43-year-old female had a cerebellar pilocytic astrocytoma operated 27 years ago. Reoperation and radiation therapy were employed in a recurrence 13 years ago. One week before admission, progressive drowsiness, disorientation in time and space, slurred speech and worsening of a residual right hemiparesis begun. Cerebrospinal fluid (CSF) analysis and electroencephalography (EEG) were unremarkable. She improved without specific therapy.

Recently recognized stroke-like migraine attacks after radiation therapy (SMART) is a syndrome which consists of prolonged, unilateral neurological symptoms that are spontaneously reversible¹⁻⁴. Magnetic resonance (MR) findings are fundamental for diagnosis, characterized by transient, dramatic, but reversible cortical gadolinium enhancement of the affected cerebral hemisphere¹⁻³ (Figs 1 and 2). Appropriate diagnostic workup should exclude other diagnostic possibilities.

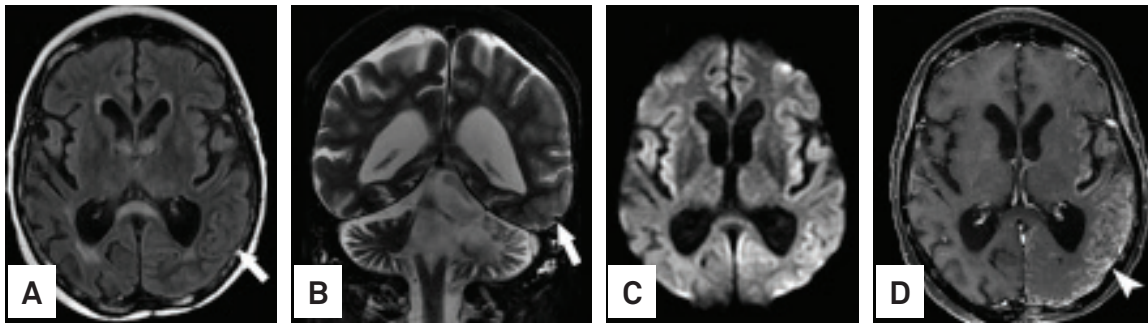


Fig 1. Magnetic resonance (MR) exam obtained in the beginning of the clinical picture. Axial FLAIR (A) and coronal T2-weighted (B) images disclose slight cortical hyperintensity in the left insula, temporal and parietooccipital regions (arrows), which presents intense gyriform enhancement in the corresponding axial T1-weighted post gadolinium image (arrowhead in D). There is also slight cortical hyperintensity in diffusion-weighted image (C), but without clear reduced diffusion in apparent diffusion coefficients map (not shown). Notice also postoperative changes in the left cerebellar hemisphere, seen in coronal T2-weighted image (B), and nonspecific hyperintense periventricular lesions in axial FLAIR image (A).

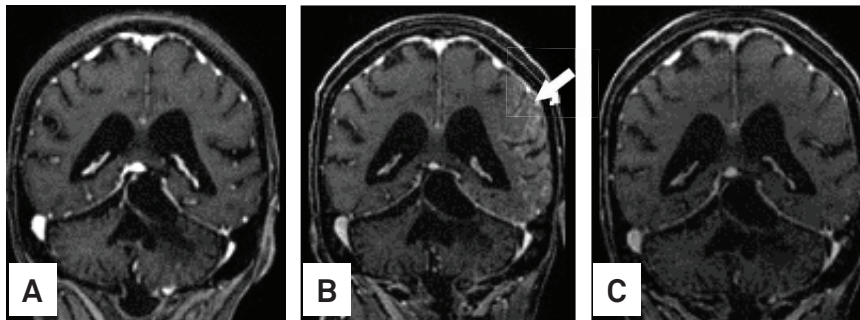


Fig 2. Coronal reformatted images from post contrast 3D-SPGR images obtained in three distinct time frames. (A) Image obtained 16 months before the beginning of the acute clinical findings demonstrates only cerebellar postoperative changes, in a regular follow-up exam. (B) Image obtained from the same exam as Fig 1, showing the intense gyriform enhancement in the left temporal and parietooccipital regions (arrow). (C) After 14 days, a new magnetic resonance (MR) exam shows no abnormal enhancement.

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