

Hyperintense signal in pyramidal tract neurons in postoperative brain tumor: wallerian degeneration or neoplastic dissemination?

Sinal hiperintenso no trato piramidal no pós-operatório de tumor cerebral: degeneração walleriana ou disseminação neoplásica?

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A 46-year-old man presented with behavioral changes and partial seizures over 20 days. Neurological examination showed mental confusion. Brain MRI showed a ring-shaped lesion in the left frontal lobe (A and B). Surgery was performed (C) and pathology confirmed glioblastoma multiforme. The patient underwent radiotherapy and chemotherapy.

A control MRI (eight months later) showed hyperintense signal in the left pontine base (D and E), suggesting wallerian degeneration or neoplastic dissemination. Four months later, there was a marked increase in lesion size, confirming that the hyperintense signal in the pyramidal tract was neoplastic dissemination (F). Follow-up imaging may differentiate wallerian degeneration from tumor spread^{1,2}.

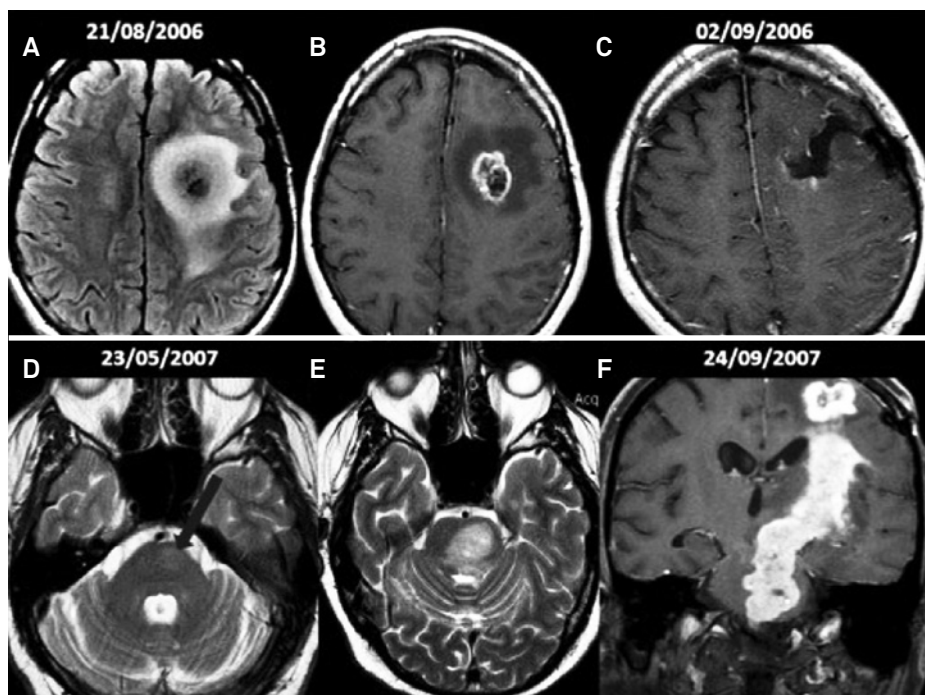


Figure. (A) axial FLAIR; (B) axial T1-weighted brain MRI disclosing an infiltrative lesion, suggesting a brain tumor. Note necrotic center and gadolinium enhancement, surrounded by vasogenic edema in the upper and middle frontal gyri of the left cerebral hemisphere; (C) axial T1-weighted brain MRI demonstrating postoperative imaging; (D) axial T2-weighted brain MRI showing hyperintense signal in the left portion of the paramedian pontine base, in the topography of the pyramidal tract; (E) axial T2-weighted brain MRI; (F) coronal T1-weighted brain MRI disclosing an infiltrative and neoplastic lesion, with a marked hyperintense signal throughout the left pyramidal tract, from the corona radiata to the pontine base.

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