Case Report

Intravenous Thrombolysis for Ischemic Stroke in Recurrent Oligodendroglioma: A Case Report

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Data on efficacy and safety of intravenous (IV) thrombolysis with recombinant tissue plasminogen activator (rtPA) in patients with acute ischemic stroke (AIS) and intracranial neoplasm are lacking. To date, only a handful of case reports have been published in the literature addressing the administration of IV rtPA to patients with AIS and coexisting brain neoplasms. We present the case of successful IV thrombolysis with rtPA for AIS in a patient with oligodendroglioma on bevacizumab without hemorrhagic complications. We summarize the published cases of thrombolysis in AIS in patients with intracranial neoplasms. **Key Words:** Thrombolysis—brain tumors—oligodendroglioma—ischemic stroke.

Case Report

A 52-year-old woman developed sudden onset slurred speech and right arm and leg weakness. She had a history of recurrent left frontal grade II (with ultimate anaplastic transformation) oligodendroglioma initially diagnosed in 1998, treated with radiation and chemotherapy, and localized seizure disorder. She was clinically and radiologically stable on treatment with bevacizumab, temozolomide, and anticonvulsants. She had baseline right-hand weakness and mild right leg weakness. On presentation, she had dysarthria, upper motor neuron right facial paresis, and flaccid hemiplegic right upper and lower extremities with extensor plantar response. National Institutes of Health Stroke Scale (NIHSS) score was 11. A noncontrast head computed tomography demonstrated postsurgical changes and bilateral frontal hypoattenuations, consistent with radiation injury and hypo-attenuation in the posterior left frontal lobe consistent with known tumor. A localized motor seizure with Todd's paralysis with or without possible tumoral progression was initially suspected. An emergency brain magnetic resonance imaging (MRI) with AIS protocol including a gadolinium-enhanced study was obtained that showed a restricted diffusion lesion in left periventricular white matter consistent with acute infarction (Fig 1), adjacent to the left frontal partially enhancing tumor that was stable (Fig 2, A). After reviewing the risks of intravenous (IV) thrombolysis, in particular the susceptibility of intratumoral hemorrhage, the patient consented to treatment and received a weight-based IV alteplase within less than 4 hours of symptom onset. Within 24 hours, her deficit improved with an NIHSS score of 8. MRI performed at day 3 did not demonstrate any bleeding. Stroke workup including vessel imaging, echocardiography, and hypercoagulability panel was unremarkable, and stroke secondary to bevacizumab-related neurotoxicity was suspected, warranting discontinuation of the drug. Delayed radiation-induced vasculopathy as a contributing factor was also considered. The patient was discharged to acute

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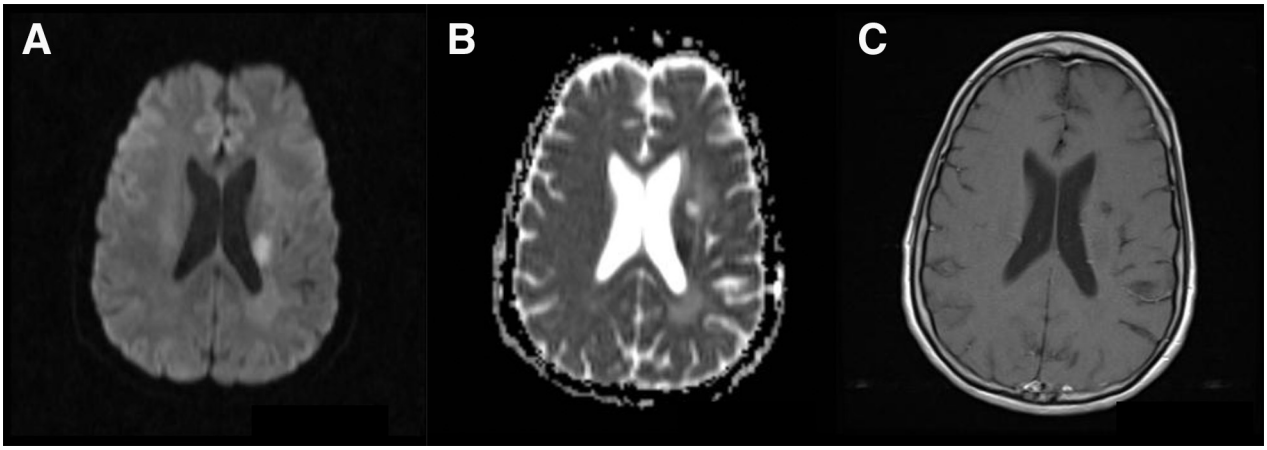

Figure 1. *Diffusion-weighted imaging demonstrates an acute ischemic stroke in the left periventricular white matter (A) with corresponding changes on apparent diffusion coefficient map (B). No enhancing tumor is seen in the corresponding area on postcontrast T1 study (C).*

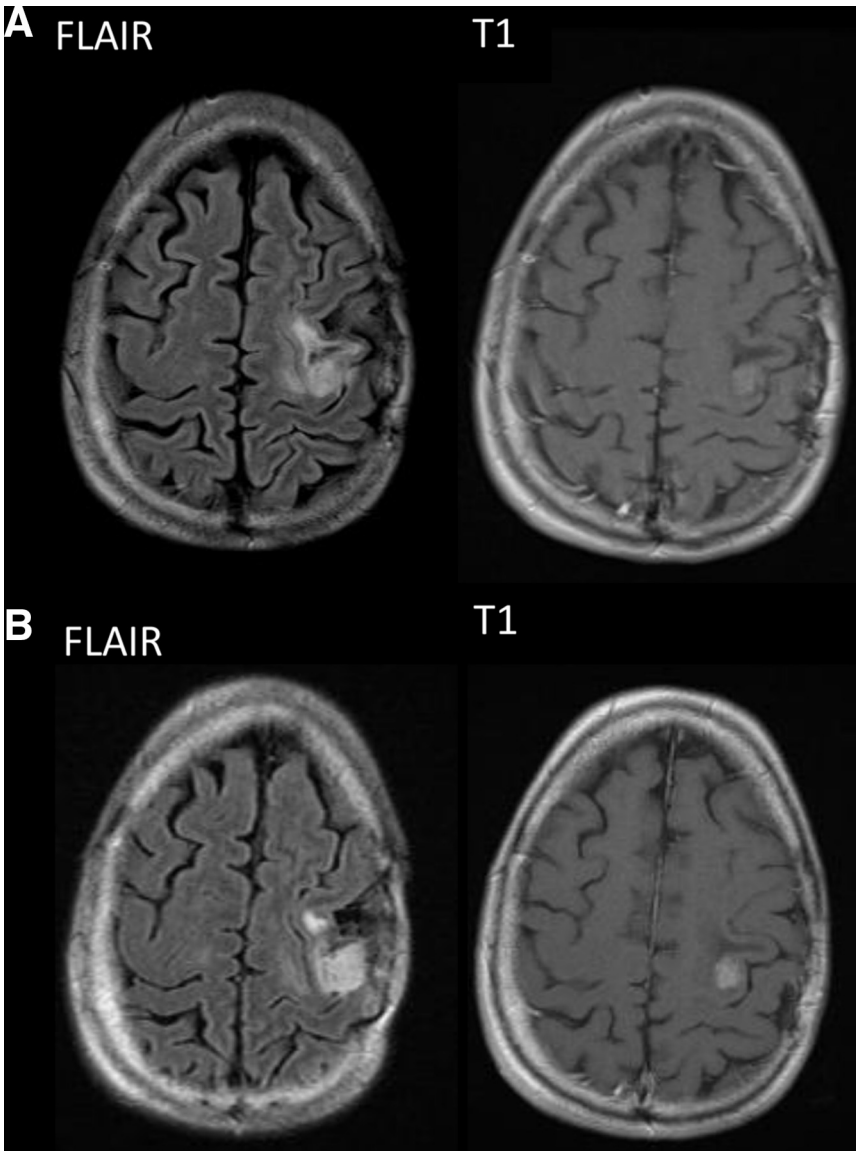

Figure 2. *FLAIR and T1 with contrast MRI at onset (A) and at 1-month follow-up (B) showing increased enhancement in the left parietal surgical cavity raising the question of tumor progression. Abbreviations: FLAIR, fluid-attenuated inversion recovery; MRI, magnetic resonance imaging.*