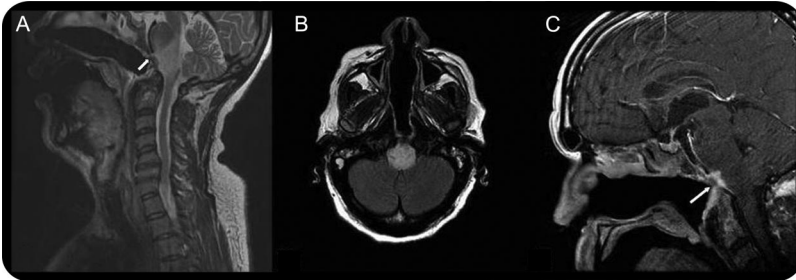


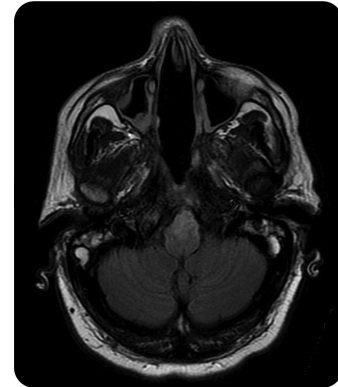
Rhombencephalitis due to cocaine-induced bony erosion of skull base

Figure 1 Initial brain and cervical spine MRI



Sagittal T2 (A), axial T2 fluid-attenuated inversion recovery (B), and sagittal T1 with contrast MRI (C) show a large bony defect in the skull base with erosion of the sphenoid sinus walls and perforated nasal septum. There is abnormal T2 hyperintensity and enhancement in the brainstem with clival erosion (arrow where most severe) and marrow enhancement.

Figure 2 Brain MRI after 6 weeks of IV antibiotics



Axial T2 fluid-attenuated inversion recovery MRI of the brain demonstrates decreased T2 fluid-attenuated inversion recovery hyperintensity in the medulla following 6 weeks of IV antibiotics.

A 49-year-old man with 10 years of intranasal cocaine use presented with dysphagia. Neurologic examination demonstrated bilateral sixth nerve palsies. Brain MRI showed erosion of the sphenoid sinus walls and a defect in the skull base; the resulting path between the nasal cavity and brainstem permitted rhombencephalitis and clival osteomyelitis (figure 1). Clival cultures grew methicillin-resistant *Staphylococcus aureus*. IV antibiotics were administered and switched to oral after 6 weeks. Repeat MRI showed decreased T2 fluid-attenuated inversion recovery brainstem hyperintensity (figure 2). Antibiotics will be used for at least 1 year; surgical reconstruction of the skull base will depend on his abstinence from cocaine.

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