

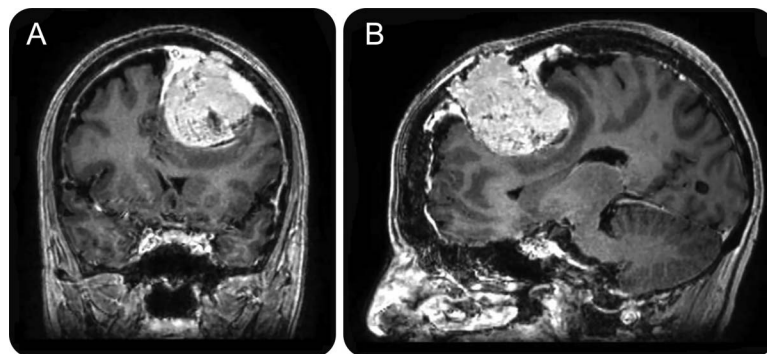
# Reversible cursive agraphia

**Figure 1** Patient's handwriting on 3 different occasions



Valentine's card handwritten by the patient (A) 1 month prior to presentation, (B) a handwritten copy produced by the patient at the time of presentation (after being asked to use her normal cursive handwriting), and (C) 5 days after resection of the skull-based metastasis.

**Figure 2** Brain MRI



(A) Axial and (B) sagittal brain MRI, postgadolinium spoiled gradient recalled echo sequence, shows a large, enhancing calvarial lesion, exerting mass effect on left frontal lobe.

A 56-year-old right-handed woman, with fine penmanship, presented with inability to perform cursive writing due to calvarial metastasis of a tibial osteosarcoma and left frontal lobe involvement (figures 1 and 2). Tumor resection resulted in a regained capacity for cursive handwriting. Allographs are variants of graphemic representations (upper vs lower case or cursive vs print). Writing requires activation of abstract graphemic representations, selection of the allograph, and formulation of a motor plan.<sup>1</sup> Allographic agraphia is rare, affecting the second or third of these processes, differing from other forms of nonaphasic agraphia such as apraxia or visuospatial agraphias.<sup>2</sup> It has been associated with left frontal lesions in clinical and imaging studies.<sup>2,3</sup>

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1. Rapp B, Caramazza A. From graphemes to abstract letter shapes: levels of representation in written spelling. *J Exp Psychol Hum Percept Perform* 1997;23:1130–1152.
2. Menichelli A, Machetta F, Zadini A, Semenza C. Allographic agraphia for single letters. *Behav Neurol* 2012;25:233–244.
3. Planton S, Jucla M, Roux FE, Démonet JF. The “handwriting brain”: a meta-analysis of neuroimaging studies of motor versus orthographic processes. *Cortex* 2013;49:2772–2287.

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