RESIDENT & FELLOW SECTION

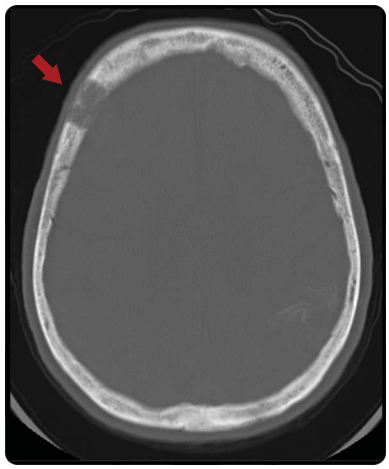
Section Editor
Mitchell S.V. Elkind, MD, MS

Teaching NeuroImages: EEG pattern associated with a skull osteolytic lesion in breast cancer

Cullen O'Gorman, MBBS
Gregory D. Cascino, MD

Correspondence to Dr. O'Gorman: ogorman.cullen@mayo.edu

Figure 1 CT head study

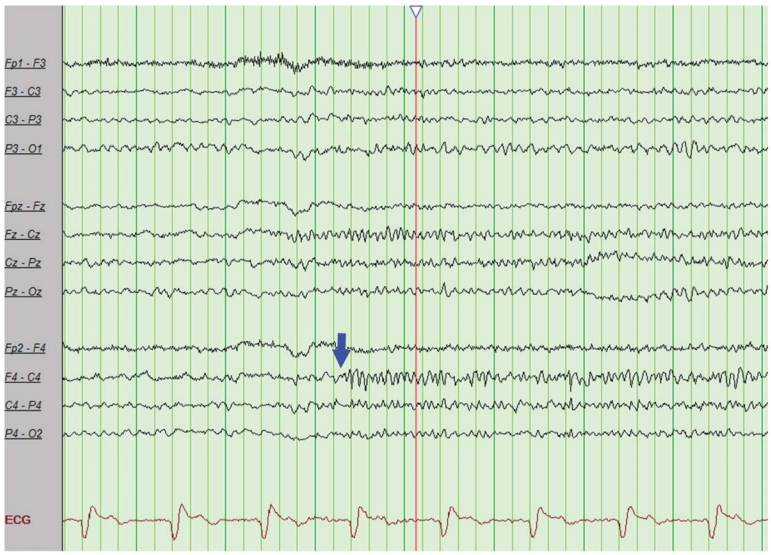


Large osteolytic lesion in the right frontal bone. Calcification in the left superior parietal lobe is secondary to prior infarction.

An 84-year-old woman had recurrent spells of right upper limb weakness and numbness. There were prior left parietal and right occipital strokes and metastatic breast cancer with skull involvement (figures 1 and 2). The diagnosis was focal epilepsy.

Breach effect is defined as a focal increase in amplitude of α, β, and μ rhythms detected at or near the site

Figure 2 EEG recording



High-amplitude, high-frequency activity confined to the right frontocentral region consistent with breach rhythm.

Download teaching slides: Neurology.org

From the Mayo Clinic, Rochester, MN.

Go to Neurology.org for full disclosures. Funding information and disclosures deemed relevant by the authors, if any, are provided at the end of the article.

of a bony skull defect,[1] usually seen with surgical skull defects but also with osteolytic lesions of the skull.[2] There is no association with epilepsy, but the EEG alteration may be confused with focal epileptiform discharges.

STUDY FUNDING

No targeted funding reported.

DISCLOSURE

C. O'Gorman reports no disclosures relevant to the manuscript. Dr. Cascino is a member of the American Academy of Neurology Board of Directors, an Associate Editor of *Neurology*®, and supported by Mayo Foundation—Mayo Medical Ventures and NIH grant—Epilepsy Phenome Genome Project: R01NS053998. Go to Neurology.org for full disclosures.

REFERENCES

1. Cobb WA, Guiloff RJ, Cast J. Breach rhythm: the EEG related to skull defects. Electroencephalogr Clin Neurophysiol 1979;47:251–271.
2. Radhakrishnan K, Silbert PL, Klass DW. Breach activity related to an osteolytic skull metastasis. Am J EEG Technol 1994;34:1–5.

Teaching Neuro*Images*: EEG pattern associated with a skull osteolytic lesion in breast cancer

Cullen O'Gorman and Gregory D. Cascino

Neurology 2014;83;e117-e118
DOI 10.1212/WNL.0000000000000783