

# Teaching NeuroImages: Enlarged parietal foramina inadvertently labeled as burr holes

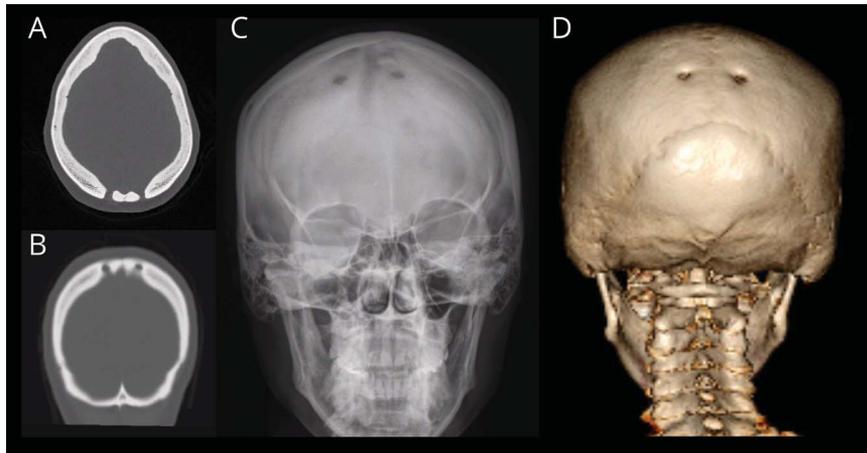
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**Figure** CT scan of the head and anteroposterior (AP) skull X-ray show enlarged parietal foramina (EPF)



Axial (A) and coronal (B) CT bone window images, AP skull X-ray (C), and a 3D rendering of the CT scan of the head (D) show symmetric oval foramina roughly 50 × 50 mm in diameter encompassing the entire depth of the parietal bones consistent with EPF.

A 49-year-old woman presented with status migrainosus. A CT head revealed only bilateral symmetric burr holes in the posterior paramedian calvarium despite no prior cranial surgery (figure). These holes ultimately represented enlarged parietal foramina (EPF) unrelated to her presentation. EPF are rare developmental defects of the parietal bones (prevalence of 1: 15,000–50,000) commonly due to an abnormal ossification pattern associated with heterogeneous homeobox gene mutations. Though rarely associated with craniofacial and vascular malformations, headaches, and epilepsy, EPF are usually benign, incidental findings, ranging from few millimeters to several centimeters in diameter, and frequently located in the upper, posterior parietal bones.<sup>1,2</sup>

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## Disclosure

The authors report no disclosures relevant to the manuscript. The views expressed in this article are those of the authors and do not reflect the official policy of the Department of Army, Navy, Air Force, Department of Defense, or US Government. Go to [Neurology.org/N](http://Neurology.org/N) for full disclosures.

## References

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## Appendix Authors

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| <b>Name</b>               | <b>Location</b>      | <b>Role contribution</b>   |
|---------------------------|----------------------|--|
| <b>Juan Fernandez, MD</b> | WRNMMC, Bethesda, MD | Case report concept, design and critical revision of content, takes responsibility for the data, the analyses and interpretation, and the conduct of the case report |
| <b>Sarah Woodson, MD</b>  | WRNMMC, Bethesda, MD | Critical revision of the manuscript content and figure design  |
| <b>Kevin Cannard, MD</b>  | WRNMMC, Bethesda, MD | Critical revision of the manuscript content and figure design  |

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