

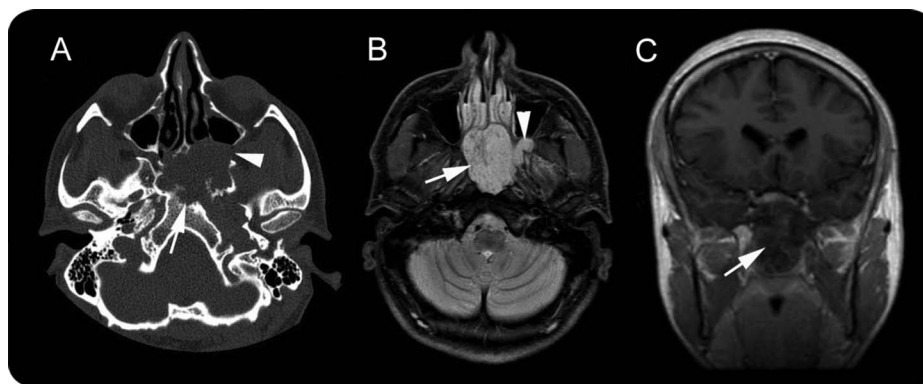
Teaching NeuroImages: Chordoma

Christine Azzopardi, MD,
MRCP

Reuben Grech, MD,
MRCS, FRCR
Adrian Mizzi, MD,
MRCP, FRCR

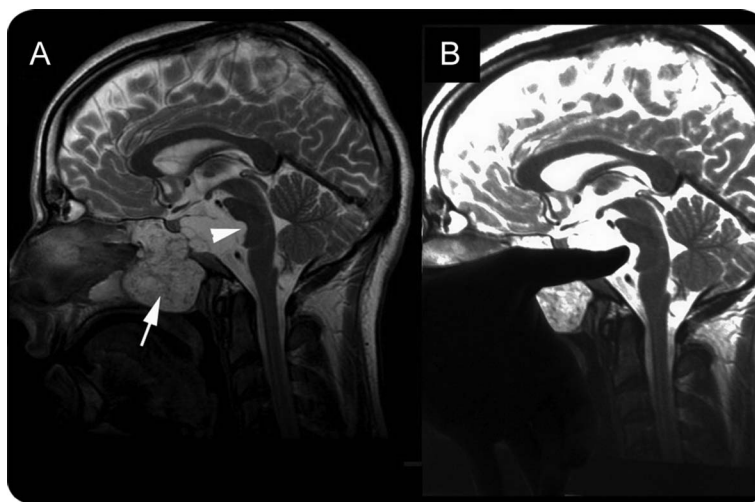
Correspondence to
Dr. Azzopardi:
chrissyazz@yahoo.com

Figure 1 Imaging features of a chordoma



(A) Axial CT image demonstrates a central skull base lesion destroying the clivus (arrow) and left sphenopalatine fossa (arrowhead). (B) The lesion appears hyperintense on T2-weighted imaging (arrow) extending into the left sphenopalatine fossa (arrowhead). (C) Postcontrast coronal T1-weighted imaging demonstrates heterogeneous enhancement (arrow).

Figure 2 The thumb sign



(A, B) Sagittal MRI of the brain demonstrates a T2-weighted hyperintense skull base lesion (arrow, A) centered in the body of the sphenoid bone. The lesion causes osseous destruction and extends posteriorly into the prepontine and interpeduncular cisterns. Indentation of the ventral pons (arrowhead, A) results in the characteristic thumb sign (B).

A 30-year-old man presented with recurrent headaches. CT head revealed a clival chordoma (figure 1A). Chordomas originate from the embryonic remnants of the notochord and account for 2%–4%

of all malignant bone tumors. They have a predilection for the axial skeleton, with 35% affecting the spheno-occipital region. The incidence peaks at ages 20–40 years. Male patients are affected twice

Download teaching slides:
Neurology.org

From Mater Dei Hospital, Msida, Malta.

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.

as commonly as female patients.¹ Clinical symptoms often result from local mass effect. On imaging, the tumor appears as a midline lesion and can contain heterogeneous calcifications. MRI demonstrates high signal on T2-weighted sequences and heterogeneous enhancement with a honeycomb appearance (figure 1).² Indenting of the pons results in the characteristic thumb sign (figure 2). Differential diagnosis based on imaging appearance includes chondrosarcoma and metastasis.

AUTHOR CONTRIBUTIONS

Dr. Azzopardi was responsible for conducting the literature review and drafting the manuscript and accepts responsibility for conduct of research, final approval, and acquisition of data. Dr. Grech accepts responsibility for conduct of research, final approval, acquisition of data, and study supervision and made the radiologic diagnosis.

Dr. Mizzi accepts responsibility for conduct of research, final approval, and study supervision.

STUDY FUNDING

No targeted funding reported.

DISCLOSURE

The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

REFERENCES

1. Erdem E, Angtuaco EC, Van Hemert R, Park JS, Al-Mefty O. Comprehensive review of intracranial chordoma. *Radiographics* 2003;23:995–1009.
2. Géhanne C, Delpierre I, Damry N, Devroede B, Brihaye P, Christophe C. Skull base chordoma: CT and MRI features. *JBR-BTR* 2005;88:325–327.

Neurology®

Teaching *NeuroImages*: Chordoma

Christine Azzopardi, Reuben Grech and Adrian Mizzi

Neurology 2014;83:e110-e111

DOI 10.1212/WNL.0000000000000751

This information is current as of September 1, 2014

Updated Information & Services	including high resolution figures, can be found at: http://n.neurology.org/content/83/10/e110.full
Supplementary Material	Supplementary material can be found at: http://n.neurology.org/content/suppl/2014/08/31/WNL.0000000000000751.DC1
References	This article cites 2 articles, 0 of which you can access for free at: http://n.neurology.org/content/83/10/e110.full#ref-list-1
Subspecialty Collections	This article, along with others on similar topics, appears in the following collection(s): All Oncology http://n.neurology.org/cgi/collection/all_oncology CT http://n.neurology.org/cgi/collection/ct MRI http://n.neurology.org/cgi/collection/mri
Permissions & Licensing	Information about reproducing this article in parts (figures,tables) or in its entirety can be found online at: http://www.neurology.org/about/about_the_journal#permissions
Reprints	Information about ordering reprints can be found online: http://n.neurology.org/subscribers/advertise

Neurology® is the official journal of the American Academy of Neurology. Published continuously since 1951, it is now a weekly with 48 issues per year. Copyright © 2014 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

