duce this problem of "perfusion weighting" of the blood volume maps. Even without an internal carotid artery stenosis or occlusion, the matched CBV-CBF lesion shown in this case could have resulted in part from poor filling distal to the M3 lesion described on the CTA (not shown). Had the acquisition time been longer, additional contrast may have reached the territory of the CBV lesion via collateral flow.

Poor signal intensity-to-noise ratio on the CTP source images could also lead to false-positive perfusion maps. We recommend that at least 45–50 mL of contrast with 300 mg iodine/mL (or its equivalent) be administered when performing CTP to achieve adequate signal intensity. In addition, we have found that thicker CTP map sections (10 mm rather than 5 mm) have an improved signal intensity-to-noise ratio.[6] Also, accurate quantification of both CBF and mean transit time is optimized with a software package capable of deconvolution. Finally, other factors, such as streak and motion artifact, could result in false-positive CBV images. Careful review of the CTP source images, as well as the arterial and tissue time-course curves, is mandatory.

In summary, there are a number of possible explanations, both physiologic and technical, for the discrepancy between the CBV and DWI findings in the case presented. We again are grateful to Drs. McKinney et al for calling these potential pitfalls of CTP acquisition and interpretation to the attention of *AJNR* readers.

References

1. Schaefer PW, Roccatagliata L, Ledezma C, et al. **First-pass quantitative CT perfusion identifies thresholds for salvageable penumbra in acute stroke patients treated with intra-arterial therapy**. *AJNR Am J Neuroradiol* 2006;27:20–5
2. Kidwell CS, Saver JL, Starkman S, et al. **Late secondary ischemic injury in patients receiving intraarterial thrombolysis.** *Ann Neurol* 2002;52:698–703
3. Schaefer PW, Hassankhani A, Putman C, et al. **Characterization and evolution of diffusion MR imaging abnormalities in stroke patients undergoing intra-arterial thrombolysis.** *AJNR Am J Neuroradiol* 2004;25:951–7
4. Grant PE, He J, Halpern EF, et al. **Frequency and clinical context of decreased apparent diffusion coefficient reversal in the human brain.** *Radiology* 2001;221:43–50
5. Jones TH, Morawetz RB, Crowell RM, et al. **Thresholds of focal cerebral ischemia in awake monkeys.** *J Neurosurg* 1981;54:773–82
6. Hamedanchi R, Camargo EC, Gulick SM, et al. **Improved signal-to-noise ratio in thick versus thin slice CT perfusion maps.** In: *Stroke* 2006;37:647–745. Proceedings of the 31st International Stroke Conference, Kissimmee, FL, 2006

P.W. Schaefer, R.G. Gonzalez, and M.H. Lev
Department of Radiology, Neuroradiology Division
W.J. Koroshetz
Department of Neurology
Massachusetts General Hospital
Boston, Mass

Hyrtl's Fissure

The authors of "Hyrtl's Fissure: A Case of Spontaneous CSF Otorrhea" claim the first documented case of a CSF leak via abnormal persistence of Hyrtl's (tympanomeningeal) fissure.[1] I was surprised to read this because in 2002 my coauthors and I reported on a child presenting with meningitis and found during surgery to have a CSF leak from Hyrtl's fissure.[2] We included a CT image almost identical to the single case in Jegoux et al's paper in addition to 3 other illustrated examples resulting in clinical complications of one sort or another. We also reviewed developmental anatomy and the historical provenance of the eponym.

I am not sure how Jegoux et al missed our paper—titled "Hyrtl's Fissure"—during their literature review. Searching PubMed for "Hyrtl's fissure" produces only 3 responses: their paper, ours, and one by Gacek et al that we both quoted.[3] Try the same on Google, and our paper is the first result.

Had they read our paper Jegoux et al would have learned, as I did, that Hyrtl might not have been responsible for describing "his" fissure. Jegoux et al write about "the second accessory canal described by Hyrtl in 1936" and quote a supporting reference from an Austrian medical journal[4] that is also cited in other articles that refer to Hyrtl's fissure. That paper, however, may not exist.

First, Hyrtl died 42 years earlier, in 1894. Furthermore, a search of Viennese medical archives on our behalf failed to unearth this or any similar article by Hyrtl referring to the fissure. Schuknecht, quoted by Spector, had concluded some years earlier that Hyrtl probably did not describe the fissure and that the 1936 reference was a misquote.[5] He was also unsuccessful in trying to unearth the paper in Vienna or find evidence for Hyrtl's description in any of his other articles. I searched major medical libraries in London without success and read the nineteenth-century English-language articles by Hyrtl quoted in our paper. They do not mention the fissure.

Jegoux et al quote Spector: "Anton and Bast renamed Hyrtl's fissure 'the tympanomeningeal fissure or hiatus.'"[6] Again, it may be true, but we were unable to find evidence that it is so. Spector referred to 3 textbooks, 2 of which do not state explicitly that Anson and Bast were responsible for renaming Hyrtl's fissure, and the third was a histopathology text published in 1947 that I was unable to find in any London library (including the on-line catalogue of the British Library). A review of papers by Anson and Bast was similarly unrewarding.

The historical debate is incidental, but it illustrates an important lesson that I learned during the preparation of our paper. A reference should not be transposed from one article to another without reading the original paper to confirm that it says what you think it does.

P.M. Rich
Department of Neuroradiology
Atkinson Morley Wing
St. George's Hospital
London, UK

References

1. Jegoux F, Malard O, Gayet-Delacroix M, et al. **Hyrtl's fissure: a case of spontaneous cerebrospinal fluid otorrhea.** *AJNR Am J Neuroradiol* 2005;26:963–66
2. Rich PM, Graham J, Phelps PD. **Hyrtl's fissure.** *Otol Neurotol* 2002;23:476–82
3. Gacek RR, Leipzig B. **Congenital cerebrospinal otorrhea.** *Ann Otol Rhinol Laryngol* 1979;88:358–65
4. Hyrtl J. **Neue Beobachtungen aus deim gebiete der Menschlichen und Vergleichenden: Anatomie Medizinishce Jahrbucher des.** *Oestr Reich Staates* 1936;10:457–66
5. Spector GJ. **Developmental temporal bone anatomy and its clinical significance: variations on themes by H F Schuknecht.** *Ann Otol Rhinol Laryngol Suppl* 1984;112:101–09
6. Spector GJ, Lee D, Carr C, et al. **Later stages of development of the periotic duct and its adjacent area in the human fetus:** *Laryngoscope* 1990;90:1–31

Reply:

I must first apologize for having forgotten to cite Rich et al[1] in our references. Because Hyrtl's fissure is still obviously a rare entity, there are several good reasons for this article to be cited. Their article is of interest, so the omission was more a mistake than a voluntary exclusion. Between publication of Rich et al and the date we submitted our manuscript for the first time, several months passed, during which time our bibliography had not been updated. Case reports are valuable for a number of different reasons, because they provide a unique look at less common disorders or diseases and are also more consistent with the practical demands of nonacademics. They are an excel-

lent way for medical students, residents, and junior faculty to gain writing and publishing experience.[2] Just as Dr. Rich received a lesson preparing his manuscript, his letter to the editor is also a good lesson for me.

In their article published in 2002, Rich et al reported a new case of Hyrtl's fissure in a 5-year-old child with bacterial meningitis. Many CT scans and approximately 3 pages of historical inquiry were presented. The case we reported in our article was of a young girl who had been previously admitted to our department in August 1999 for a clear otorrhea without a history of meningitis. We presented CT and MR imaging figures.

Even though it was published and reported after the Rich et al article, it seems correct to consider our imaging case as the first chronologically documented and diagnosed case with CT and MR imaging that can be found in a search of PubMed. The Rich case was diagnosed in 2002, and the cases discussed in the Phelps book cannot be found in PubMed at all. Moreover, it is not clear why the keyword "Hyrtl" leads to a list in which our article and the Gacek article do not appear in PubMed. Finally, it is not unanimously acknowledged that Google can be considered a scientific tool for medical publication.

One of the originalities of the case we reported is MR imaging. In such rare and potentially hazardous pathology, CT scan associated with MR imaging is not an excessive imaging in the diagnosis process. It is still a challenge for perilabyrinthine fistulas to be diagnosed before the onset of bacterial meningitis.

The historical aspect of Rich et al is of great interest because they have followed with precision every track allowed them to reach the truth in the Hyrtl's fissure mystery. This was not our objective, and we trust the references of the renowned authors' articles we have read. As Rich et al specified it in their article, failure to find the truth does not prove it does not exist. The real origin of the first description of Hyrtl's fissure is still unknown, and it is possible that Joseph Hyrtl himself was the first to do it. I agree with this author that tympanomeningeal fissure should still be named Hyrtl's fissure.

The case we have presented is a real case of Hyrtl's fissure, a rare anomaly that should be known by physicians. The literature must lead to a better understanding of diagnosis pathway of new pathology, and the Gacek article, the Rich article, our article, and Dr. Rich's letter to the editor contribute to that understanding, which is the most important point.

Franck Jegoux
Praticien Hospitalier
Service d'ORL et chirurgie maxillo-faciale
CHU Pontchaillou
Rennes Cedex, France

References

1. Rich PM, Graham J, Phelps PD. **Hyrtl's fissure.** *Otol Neurotol* 2002;23:476–82
2. Benninger MS. **The value of case report—our journal's approach.** *Otolaryngol Head Neck Surg* 2005;133:1–2

Nasal Chondrosarcoma in an Infant: Radiologic and Histologic Correlation

We report an unusual case of "nasal chondrosarcoma in an infant." An 11-month-old girl presenting with swelling near the inner canthus of her left eye she had experienced since 2 months of age underwent axial CT to assess the suspected orbital mass (Fig 1). CT showed a large heterogeneously enhancing low-attenuation mass centered in the left ethmoid sinuses with extension into left orbit and left maxillary sinuses (Fig 2). The tumor also eroded the cribriform plate and

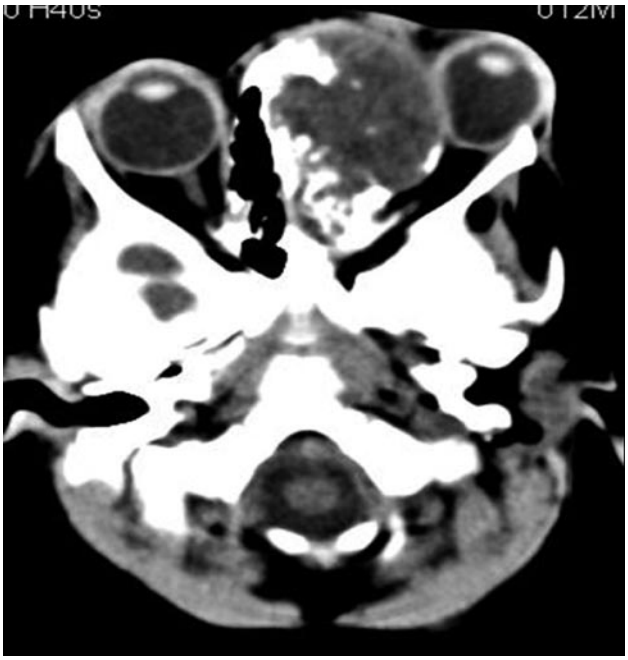

Fig 1. Plain axial CT scan shows a large expansile low-attenuation mass originating in left nasal cavity with extension into left orbit. There are subtle chondroid matrix mineralizations within the mass.

floor of anterior cranial fossa with intracranial extension (Fig 2). Only subtle calcific foci were noted within the mass (Fig 1). Biopsy of the mass showed histologic findings consistent with myxoid chondrosarcoma. Her parents, unfortunately, refused treatment.

Chondrosarcomas are malignant cartilagenous tumors that constitute approximately 10%–20% of all primary malignant osseous neoplasms, of which only about 10% arise in the head and neck region.[1] The highest incidence of craniofacial chondrosarcoma occurs in the 4th decade of life.

In the pediatric population, primary chondrosarcoma of head and neck is rare and usually occurs in the maxillary sinus or mandible. It is also typically low grade.[2] In rare cases, it may arise from the nasal cavity and nasal septum. There are only a few studies in the literature. In a study done by Gadwal et al, 14 such cases between 3 and 18 years of age were reported, only 2 of which originated from the nasal cavity.[2] The case discussed here is of nasal chondrosarcoma and is unusual

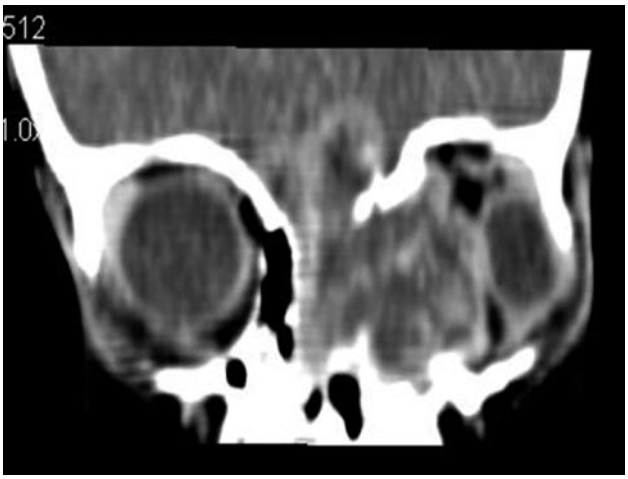

Fig 2. Postcontrast reformatted coronal CT shows septal and peripheral enhancement of the mass with extension into left maxillary sinus and anterior cranial fossa.