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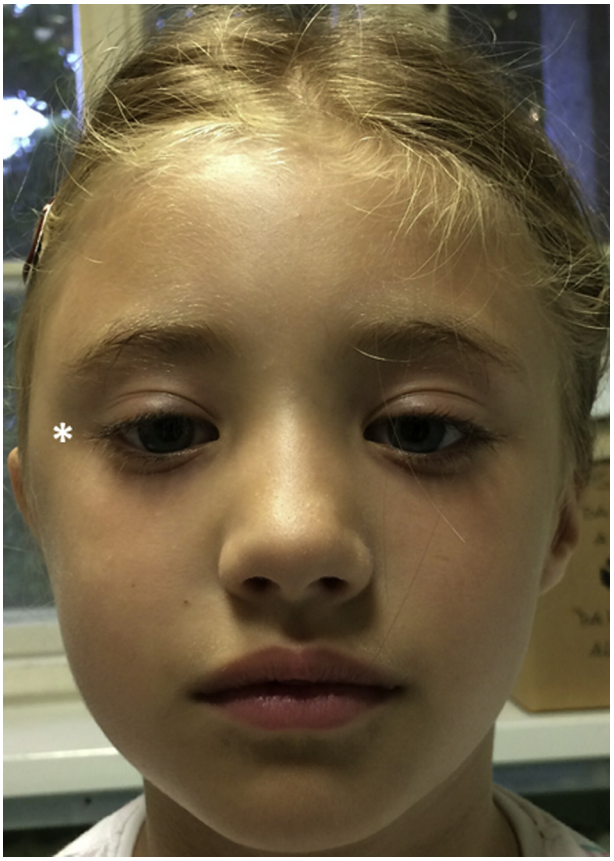

Figure 1. Unilateral temporal swelling (asterisk).

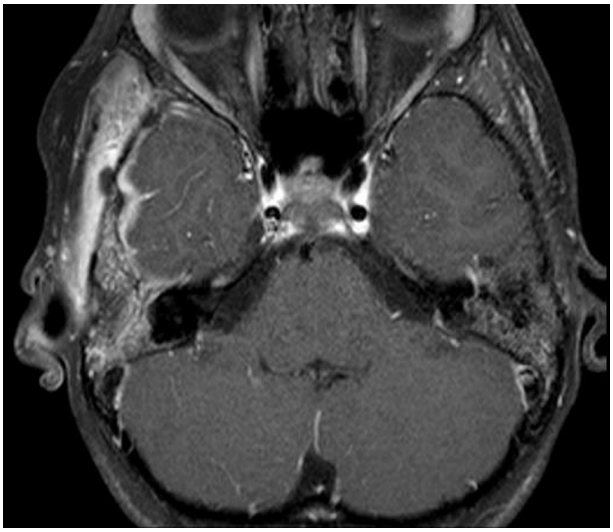

Figure 2. Axial brain MRI in T1 spectral presaturation with inversion recovery sequences with gadolinium, showing opacity of mastoid cells, with postcontrastographic enhancement of the temporal bone and adjacent muscular and meningeal structures, indicating temporal osteitis and myositis; hypointense lesion within the adjacent subcutaneous tissues representing an extracranial abscess; and hypointense nummular lesion between the temporal bone and the epidural space, suggestive of intracranial abscess.

[Ann Emerg Med. 2019;73:e45-e46.]

A 6-year-old girl was admitted to the emergency department with a 2-day history of left-sided ear pain, fever, and difficulty opening her mouth. At the physical examination, a unilateral temporal swelling was noted (Figure 1). Neither retroauricular swelling nor protrusion of the left auricle was found. The neurologic examination result was unremarkable. Otoscopy was suggestive of acute otitis media. Laboratory tests showed neutrophilic leukocytosis (WBC counts 15×10^9/L, neutrophils 11.5×10^9/L) and elevated serum c-reactive protein level of 258 mg/L (normal range <5 mg/L). Brain magnetic resonance imaging (MRI) (Figure 2) was conducted.

For the diagnosis and teaching points, see page e46.
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DIAGNOSIS:

Acute mastoiditis associated with temporal osteomyositis with intra- and extracranial abscess. MRI was suggestive of mastoiditis with temporal myositis and osteitis, focal meningitis, and both intracranial and extracranial abscess (Figure 2). There was no apparent involvement of the temporomandibular articulation. Myringotomy and intravenous antibiotic therapy with clindamycin and cefotaxime were started, with full clinical recovery.

Temporal osteitis and myositis can be associated with acute mastoiditis because the infection spreads by contiguity through the temporal bone. Temporal swelling can precede the clinical appearance of mastoiditis so that retroauricular tenderness and auricle protrusion may be absent.[1]

When difficult mouth opening is present, temporomandibular arthritis should be ruled out. Acute mastoiditis with temporal osteomyositis requires broad-spectrum parenteral antibiotics and surgical drainage if needed.[2]

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2. Burgess A, Celerier C, Breton S. Otogenic temporomandibular arthritis in children. *JAMA Otolaryngol Head Neck Surg*. 2017;143:466-471.