

## Sigmoid Sinus Thrombosis as a Complication of Acute Otitis Media in a 6 Year-Old Male-1

Alexandros Poutoglidis

General Hospital Papanikolaou Thessaloniki, Greece

### Abstract

Sigmoid sinus thrombosis (SST) is a potentially life-threatening complication of otitis media which is nowadays rare due to the widespread use of antibiotics. A high index of suspicion is necessary to allow for a timely diagnostic and therapeutic intervention. Intravenous wide-spectrum antibiotics and a cortical mastoidectomy are the mainstay of treatment. There is no consensus regarding the necessity of anticoagulants in pediatric patients. We present a 6-year-old boy who presented with an SST as a result of acute otitis media. Case Description A 6-year-old male presented with his mother to our emergency ear, nose, and throat clinic, with persistent discomfort in his right ear. The child was diagnosed with acute otitis media 10 days prior to admission and received a 7-day course of oral amoxicillin with clavulanate without much improvement. Medical history was otherwise normal. The child appeared unwell but he was hemodynamically normal and afebrile. Otomicroscopy revealed a dull tympanic membrane. The Weber tuning fork test lateralized to the right ear while the ipsilateral Rinne was negative. Pure tone audiometry showed conductive hearing loss on the right side. Laboratory tests showed an increased white cell count (17.60 K/ $\mu$ L) with neutrophilia (87%) and platelet count equal to 565 K/ $\mu$ L. A computed tomography (CT) scan was performed to evaluate the extent of the inflammation. Complete opacification of the right middle ear cavity and mastoid air cells without coalescence were noted. A high riding jugular bulb was shown on the right side. Due to the persistence of middle ear inflammation and the suspicion of acute mastoiditis, intravenous ceftazidime 1 grams twice a day, nasal decongestants and analgesics were administered. The child did not show significant improvement after 2 days of conservative treatment, and a grommet was inserted on the right side under general anesthesia. A small quantity of clear fluid was drained from middle ear and subsequent culture did not reveal any pathogen. Lack of clinical improvement led us to suspect an intracranial complication, and therefore we requested an urgent magnetic resonance imaging (MRI) including a magnetic resonance venography (MRV). Post-contrast MRI showed right sigmoid sinus enhancement with a central filling defect while the MRV confirmed the occlusion of the right sigmoid sinus. Findings were consistent with right SST due to acute mastoiditis. An urgent right cortical mastoidectomy was performed.

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