

Spontaneous cerebral spinal fluid rhinorrhea with meningocele secondary to congenital foramen rotundum defect: A case report and review of literature

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Abstract	<p>Introduction: Cerebrospinal fluid (CSF) rhinorrhea is a well-documented phenomenon with a majority being attributable to causes such as trauma, neoplasms, post-surgical complications, and congenital defects. Spontaneous CSF leaks are uncommon and the least understood of these etiologies, typically requiring multi-disciplinary repair techniques depending on its location and size. Frequently misdiagnosed by primary care as allergic rhinitis, literature reports failure to treat this rare cause of CSF rhinorrhea can increase the risk of meningitis from 10 to 32%.</p> <p>Case presentation: A 57-year-old woman presented to her primary care physician with a 2-3-year history of rhinitis, intermittent clear discharge, a chronic non-productive cough and recent pneumonia. In the recent few months her cough had significantly worsened. The patient underwent a nasal endoscopic evaluation and a left-sided lateral skull base defect appeared to be the location of the CSF leak. A subsequent meningitis workup was done and was negative. Further imaging included computed tomographic (CT) scan that revealed an osseous defect between the roof of the left sphenoid sinus and the floor of the left middle cranial fossa, immediately adjacent to the foramen rotundum; and a magnetic resonance (MR) that revealed fluid buildup in the left sphenoid sinus.</p> <p>Final/working diagnosis: The patient was ultimately diagnosed with spontaneous CSF rhinorrhea secondary to a congenital sphenoid osseous defect involving the foramen rotundum and maxillary nerve.</p> <p>Management/Outcome: Given the lateral location of the defect, we favored a left anterior lateral skull base approach with an orbito-zygomatic osteotomy, resulting in complete resolution of symptoms.</p>
Learning Objectives	<p>Upon completion of this lecture, learners should be better prepared to:</p> <ol style="list-style-type: none">1. Recognize the variable presentation of spontaneous cerebrospinal fluid (CSF) rhinorrhea.2. Identify risk factors and complications as a result of undiagnosed spontaneous CSF rhinorrhea.3. Discuss management of spontaneous CSF and certain challenges that may result in different treatment, with an example of a case and reasoning behind it.
References and Resources	<p>Article:</p> <ol style="list-style-type: none">1. Har-El G. What is "spontaneous" cerebrospinal fluid rhinorrhea? classification of cerebrospinal fluid leaks. Ann Otol Rhinol Laryngol. 1999 Apr; 108(4): 323-326.2. Toth M, Selivanova O, Schaefer S, Mann W. Spontaneous cerebrospinal fluid rhinorrhea: A clinical and anatomical study. Laryngoscope. 2010 Sep; 120(9): 1724-1729.3. DeConde AS, Suh JD, Ramakrishnan VR. Treatment of cerebrospinal fluid rhinorrhea. Curr Opin Otolaryngol Head Neck Surg. 2015 Feb; 23(1): 59-64.
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