Spontaneus cerebrospinal fluid otorrhea (SCSFO)

Spontaneous cerebrospinal fluid otorrhea is defined as no identifiable cause including previous trauma, surgery, infection, neoplasm or congenital anomaly.

The condition is rare.

Etiology

The origin is commonly a tegmen tympani defect of the middle cranial fossa.

Two theories of the etiology of bony defects of the temporal bone are the congenital bony defect theory and arachnoid granulation theory.

Pathophysiology

The pathophysiology is unclear.

Elevated intracranial pressure (ICP) is common in patients with SCSFO. However, as only a minority of patients have elevated ICP, it is not the sole factor in the development of SCSFO [1)].

Elevated intracranial pressure ICP and body mass index BMI in patients presenting with spontaneous CSF otorrhea are consistent with previous reports in the literature. The percentage of patients that underwent CSF diversion procedures was high at 53% and represents an aggressive stance in managing elevated ICP in a population that may be at risk for subsequent leaks [2)].

Eight individuals who presented with CSF otorrhea and MCF encephaloceles associated with conductive hearing loss. Defects in the tegmen tympani were noted in all patients on preoperative cranial imaging, and six of the eight patients had an associated encephalocele. The average age was 57 years (range 26 to 67) with a male:female ratio of 7:1. Most defects occurred on the left side (6 left/2 right). A standard MCF approach and repair of the dural defect with an autologous dural graft (Durepair or DuraGen, Medtronic, Minneapolis, Minnesota, USA) and a synthetic polymer glue (DuraSeal, Covidien, Mansfield, Massachusetts) was performed in each case with universal success. Resolution of the CSF otorrhea was noted in all cases. All cases but one exhibited an improvement in hearing. One patient developed a delayed methicillin-resistant Staphylococcus aureus meningitis 3 months after surgery that resolved with surgical re-exploration and antibiotic therapy. Facial nerve monitoring was standard. All patients exhibited normal facial function postoperatively. Prophylactic lumbar drain placement was only utilized in the first three patients. The MCF approach is an excellent route to effectively repair CSF leaks and encephaloceles due to tegmen tympani and dural defects [3)].

Case report

2013

A case of a 49-year-old female patient admitted with the complaint of persistent right ear fullness. Computed tomography revealed a large defect of the middle fossa and suspicious CSF otorrhea

through the defect of tegmen tympani. Repair was successful with multiple bone chips using the transmastoid approach. The postoperative course was good and there has been no recurrence of the CSF leakage (Boo SH, Goh YB, Han CS. Repair of spontaneous cerebrospinal fluid otorrhea from defect of middle cranial fossa. Korean J Audiol. 2013 Dec;17(3):148-51. doi: 10.7874/kja.2013.17.3.148. Epub 2013 Dec 13. PubMed PMID: 24653924; PubMed Central PMCID: PMC3936553. ())

1)
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