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C0354 - SPONTANEOUS OTOGENIC INTRAVENTRICULAR PNEUMOCEPHALUS WITH A CISTO-VENTRICULAR CONNECTION

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Resumen

Objectives: Spontaneous pneumocephalus is an infrequent clinical entity representing only 0.6% of all published cases. In the absence of craniofacial trauma, recent intracranial surgery, sinus disease or tumor, a defect in temporal or frontal bone is usually found out. The presence of a dural defect, allows air to communicate to the intracranial space triggered by known events such as scuba diving, altitude changes or Valsalva maneuvers.

Methods: An 80-years-old man, with a personal history of cavum cancer treated with radiotherapy, presented with a progressive headache of 5 months duration which worsened with Valsalva maneuvers (coughing due to upper respiratory tract infection) and with no other symptomatology. A CT scan demonstrated a pneumocephalus with intraventricular involvement and a higher pneumatization of right mastoid bone with evidence of bone defect involving tegmen tympani. On MRI, it was observed a right temporal cystic formation, previously inexistent, in connection with temporal horn without restriction on diffusion sequence and not contrast-enhanced. In the operation room, lumbar drainage was placed. Right middle fossa craniotomy was performed observing a porous petrous bone which was covered with temporal muscle and fascia graft. The cyst was opened and the connection with temporal horn sealed.

Results: The ball-valve effect produces air being forced through the craniodural defect during Valsalva maneuvers. Due to pressure gradient, air (negative pressure) would only enter in cerebral parenchyma (positive pressure) in the presence of an increase in middle ear pressure. The entrapment of the air in contact with CSF caused a cyst neof ormation and air dissemination to the ventricles.

Conclusions: This case illustrates an unusual presentation of spontaneous pneumocephalus as a result of a temporal bone defect. It can be exacerbated by a ball-valve effect trapping air and increasing intracranial pressure. The goal must be to identify and repair the bony and dural defects.