



Migraine associated with bilateral pulsatile tinnitus an case report

Enzo Lima Alcântara Parente; Elizeu Alves Herbster; Ian Victor Resplande de Sá; Rafaella Iughetti da Costa; Gilberto Santos Cerqueira; Aston Alves de Freitas; Marcelo de Almeida Pinheiro; Alissa Elen Formiga Moura

Centro Universitário Christus, Fortaleza - CE - Brazil.

Introduction

The primary headaches can have numerous patterns according to the patient, however, when its pattern alters, it is necessary to investigate what caused this change, aiming to rule out secondary causes. Pulsatile tinnitus and headaches are frequent conditions that require further investigation when associated. The pulsatile tinnitus differential diagnosis includes numerous pathologies and conductive obstruction must be ruled out (cerumen or mucous in the middle ear). The patient's examination shall include the auscultation of both ears and neck, in addition to the otoscopy. Imaging tests such as angiography, computerized tomography and magnetic resonance support the investigation. Therefore, pulsatile tinnitus when associated with headache reminds us of intracranial hypertension, besides, the tinnitus and the headache can be related regarding their pathophysiology that involves specific alterations in the thalamo-cortical activity and the trigeminal system, which is evidenced not only in headaches but also in migraine and in trigeminal autonomic cephalgias and interacts in the dorsal cochlear nucleus with the activity of the central auditory pathways causing perception of tinnitus.

Objective

Consider the presence of migraine associated with bilateral pulsatile tinnitus as a sign of intracranial hypertension.

Case Report

JBG, 25 years old, born and raised in Fortaleza. Presented with "tinnitus since 3 months ago", states bilateral pulsatile tinnitus that started three months ago. The patient also has a holocranial headache, persistent since 5 months ago, which is different from her usual migraine (crisis only during the menstruation), which got mildly better with the use of analgesics. States that the symptoms are worse in the morning and that the pain got worse with effort and when coughing, having severe impacts on her sleep quality. Denies other symptoms. Obese patient with a 38 kg/m² BMI. In her neurological examination it was evidenced that the patient had papilledema and bilateral decrease of visual acuity to 10/20. That said, the patient was hospitalized and went through an MRI, which evidenced increase in the tortuosity of the optical nerve in T2 (figure 1), and an MR Angiography which had no findings, laboratory tests were also done, including haemogram, inflammatory tests, hepatic and thyroid activity, which did not evidence alterations, and lumbar puncture that had an opening pressure of 40 mmH₂O. Therefore, the patient was treated with Acetazolamide 500 mg three times a day, a spinal tap to relieve the intracranial pressure and orientations about weight loss.

Conclusion

This clinical case highlights the importance of the correlation between a headache associated with bilateral pulsatile tinnitus as an alert sign for intracranial hypertension, which can be a subjacent cause of secondary headaches. Early identification and adequate management of these symptoms are of utmost importance to avoid severe complications and preserve the patient's quality of life.

Keywords: Headache; Intracranial hypertension; Tinnitus; Migraine.