

Sensorineural hearing loss and vertigo as first symptoms of Arnold-Chiari malformation

Lucija Knez¹, Iva Mažić², Jakov Ajduk^{2,3}

¹OB Varaždin, Varaždin, Hrvatska, ²Sveučilište u Zagrebu Medicinski fakultet, Zagreb, Hrvatska, ³Klinika za otorinolaringologiju i kirurgiju glave i vrata, KBC Sestre milosrdnice, Zagreb, Hrvatska

lucijaknez6@gmail.com

Introduction: Arnold-Chiari malformation is a congenital malformation of the skull in which the cerebellum and the medulla are pushed into the upper cervical canal outside the foramen magnum. Chiari malformation can manifest with headache, ataxia, tinnitus and audio-vestibular symptoms that generally worsen with time. A correct diagnosis leads to timely surgical intervention. Diagnosis of the Arnold-Chiari malformation is confirmed with MRI. Treatment generally involves surgical decompression of the surrounding spinal tissue. **Case presentation:** We present a 15-year-old boy, with sudden symptoms of dizziness, vertigo, tinnitus and hearing loss in the right ear, brought on during exercise. Dizziness, tinnitus and vertigo disappeared after few days but a hearing loss remained. He denied having headaches. He has hypertension and that was considered as the cause of the new symptoms. Complete audio-vestibular examination was performed and sensorineural hearing loss on the right ear was revealed. MRI brain scan was made and caudal herniation of the medulla oblongata and cerebellar tonsils through foramen magnum (by 16 mm) was discovered. Herniation was more pronounced on the right side, medulla oblongata was pushed forward, and the cerebrospinal fluid space in that level was reduced. **Conclusion:** Arnold-Chiari malformation can present itself with numerous symptoms. Hearing loss, tinnitus and vertigo need to be considered as a possible sign of this disorder.

Key words: Arnold-Chiari malformation, vertigo, sensorineural hearing loss