

# 4<sup>th</sup> European Otolaryngology-ENT Surgery Conference

&

## 3<sup>rd</sup> International Conference on Craniofacial Surgery

August 15-17, 2019 Rome, Italy

### Vestibular and radiological evaluation of hearing impaired children with delayed Motor development

Mohamed El-Moursy kasem<sup>a</sup>, Mohamed Salama Bakr<sup>b</sup>, Samy Abd-Elaziz Sayed<sup>c</sup>, Enass Sayed Mohamed<sup>b</sup>, Mostafa Ahmed Aly Youssif<sup>d</sup>

<sup>a</sup>Audiovestibular medicine Unit, Al-Azher University Hospital (Assiut) , Egypt

<sup>b</sup>Audiovestibular medicine Unit, Assiut University Hospital, Egypt

<sup>c</sup>Radiology Department , Assiut University Hospital, Egypt

<sup>d</sup>Audiovestibular medicine Unit, Sohag University Hospital, Egypt

**Background:** Combined hearing and vestibular loss in children pose potentially significant problems. Children and infants with vestibular problems are faced with motor problems that could limit their normal development.

**Objectives:** The aim of the study is to assess the relationship between the vestibular disorders and the delayed motor development in hearing impaired children as well as to assess the integrity of the vestibular system through clinical testing and radiological imaging in those children with delayed motor development.

**Methods:** Thirty hearing impaired children with history of delayed motor milestones, and a control group of 10 hearing impaired children with normal motor development were included with variable degree of hearing loss. Each child was subjected to careful history taking, general examination, otoscopic examination, motor and balance questionnaires were answered by the parents or caregivers, audiological evaluation either through conditioned play audiometry or conventional audiometry, speech audiometry and Immittanceometry. Vestibular evaluation through cVEMP and caloric tests and finally the radiological studies through CT and MRI of the petrous bone.

**Results:** There were variable degrees of hearing loss among both groups. In the control group (10 HI children, 20 ears), 18 ears (90%) had VEMP response, while two ears (10%) had absent VEMP, while in the study group (30 HI children, 60 ears), 48 ears (80%) had VEMP response, while 12 ears (20%) had absent VEMP. All children in the control group had normal caloric response, while in the study group, 23 children (77%) had normal response, and seven children (23%) had abnormal caloric response, 4 children had bilateral weakness and 3 had unilateral weakness. CT and MRI study of petrous bone was done for the control group and revealed normal radiology, while in the study group, 21 children had normal imaging (70%) and the last 9 children (30%) had abnormal findings, the most common abnormalities was enlarged vestibular aqueduct (13%), followed by common cavity (7%).

**Conclusion:** Children with hearing loss, irrespective of the degree of hearing loss, the vestibular system should be screened, assessed as it may be responsible for co-morbidities in fine and gross motor difficulties. Early intervention and effective therapy will be the proper way to get good outcome.

### Biography

Dr. Mohammed Elmoursy Kasem presently works at Assiut College of Medicine at Al-Azhar university, Egypt. He completed his Doctorate in Department of Audiology in Assiut University. He perform different vestibular rehabilitation exercise.

moursy\_audio2020@yahoo.com