

ABSTRACT

Aims and Objectives: To determine the prevalence of hearing impairment in at risk neonates admitted in tertiary level teaching hospital and to determine distribution of common risk factors in newborns with hearing loss.

Materials and Methods: It was a prospective study over a period of one year. We screened high risk neonates for hearing impairment using portable transient evoked otoacoustic emissions (TEOAE) before discharge from the hospital. Follow up transient evoked automated otoacoustic emissions (TEOAE) was performed after four weeks in cases where initial testing gave refer response. Babies who tested refer on the follow-up were subjected for BERA testing and hearing impairment was confirmed.

Results: A total of 110 cases comprising 39 males (35.5%) and 71 females (64.5%) were enrolled and studied. 45 cases (40.9%) were preterm, 30 cases (27.3 %) were low birth weight, 20 cases (18.2%) were having perinatal asphyxia with Apgar score of less than 6 at fifth minute, 9 cases (8.2%) had hyperbilirubinemia requiring exchange transfusion, 6 cases (5.5%) had sepsis. In the first visit, with 110 neonates and 220 test ears, OAE was tested. 84 neonates (76.36%) had both ears pass response, while 26 neonates (23.63%) had refer response (10 males and 16 females). Hearing loss had no statistical relationship with gender ($p=0.978$). 2 neonates did not appear for follow up visit. 2nd OAE was tested after 4 weeks of initial testing. Out of 24 neonates with refer response in second visit, 8 were preterm neonates, 5 had prenatal asphyxia, 5 had received exchange transfusion for hyperbilirubinemia, 2 had low birth weight and 1 had sepsis. BERA was done for neonates with refer response even in the second visit and hearing impairment was confirmed.

Conclusion: To conclude, prevalence of hearing impairment in at risk neonates are preterm neonates (40.3%), low birth weight (27.3%), perinatal asphyxia (18.2%), hyperbilirubinemia requiring exchange transfusion (8.2%), sepsis (5.5%). The prevalence of hearing impairment was more in neonates with hyperbilirubinemia requiring exchange transfusion than other risk factors. A targeted approach for hearing screening may be more feasible in resource limited settings.