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**Evaluation of Auditory Brainstem Responses (ABR) in healthy term infants with elevated bilirubin levels requiring exchange transfusion or were treated with exchange transfusion**

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**Background and Objective:** hyperbilirubinemia is a common cause neonatal disease. Sever hyperbilirubinemia is a risk factor for auditory system injury. To determine the usefulness of auditory brainstem responses (ABR), in early diagnosis of hearing impairments in healthy term infants with elevated bilirubin levels requiring exchange transfusions or treated with exchange transfusions.

**Material & Methods:** During a two year period (2007 – 2009), in a prospective descriptive analytic study, 64 ( 32 female , 32 male ), healthy term (> 37 weeks) infants, who required treatment or were treated with phototherapy or exchange transfusions for elevated bilirubin levels or jaundice, were studied. After obtaining consent from parents post treatment, infants were tested with auditory brain responses (ABR) then results were analyzed using SPSS 16 software.

**Results:** No significant correlation was seen between ABR with age ,weight, bilirubin level and ABO group . 19 of 64 infants were treated with exchange transfusion, 3 of 19 infants (16%) showed abnormal ABR and 16 of 19 infants (84%) had normal ABR, which showed no significant correlation between exchange transfusion and ABR . $p < 0.05$

**Conclusions:** These results showed that 14% of infants with elevated bilirubin who required exchange transfusion had abnormal ABR, which indicate that elevated bilirubin levels requiring exchange transfusion without kernicterus is an important risk factor for hearing impairments and may lead to abnormalities in hearing tests. Although it is unclear, how long these tests remain abnormal, which requires further research.

**Key Words:** Infant, hearing loss, exchange transfusion, auditory brainstem response, oto-acoustic emission (OAE)

### Biography

Seyed Saeid Nabavi, MD, is an Assistant Professor of Pediatrics at Tehran Azad University. He graduated from Tehran Azad University and completed his residency in Pediatrics at Zanjan University of Medical Sciences. Dr. Nabavi's area of interest is Neonatology. and participated at pediatric congress in the rome(2017 ) and presented his article about brain ultrasonographic finding in neonatal seizure.

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