

Letter to the Editor

Effect of Hyperbilirubinemia on Medial Olivocochlear System in Newborns

Fulya Özer 

Department of Oto-Rhino-Laryngology and Head Neck Surgery, Başkent University School of Medicine, Ankara, Turkey

ORCID iD of the author: F.Ö. 0000-0001-5381-6861.

Cite this article as: Özer F. Effect of Hyperbilirubinemia on Medial Olivocochlear System in Newborns. J Int Adv Otol 2020; 16(2): 295-6.

Dear Editor,

I have read with great interest the article titled "Effect of Hyperbilirubinemia on Medial Olivocochlear System in Newborns" in the August 2019 issue of The Journal of International Advanced Otology (15(2): 272-6) by Karabulut et al. ^[1] However, some points need to be explained.

The authors demonstrated subclinical damage in Medial Olivocochlear System (MOC) efferent system of infants with hyperbilirubinemia with normal auditory brain stem response. They showed that MOC reflex activity significantly decreased with hyperbilirubinemia. They also claimed that there was no significant correlation between total serum bilirubin levels and total MOC reflex values of both ears and presented some p values. I could not find the mean values of total serum bilirubin levels and of total MOC reflex. It is not clear which statistical test is used for this insignificant relationship. I assume that they performed a correlation analysis, as they say there is no correlation.

However, correlation analysis is a statistical method used to determine whether there is a linear relationship between two (or more) quantitative variables ^[2]. Correlation coefficient is used for this statistic and expressed as "r." If $r < 0.2$, it means there is no correlation or weak correlation. In the article by Karabulut et al., it should be the r coefficient, not the p value, which should be presented for statistical significance, and this relationship should be shown with a graph.

In the literature, Jiang et al. ^[3] showed that there was no close correlation between the degree of amplitude reduction in auditory brainstem response (ABR) and the level of total serum bilirubin. However, they found significant correlation between latencies of ABR and total serum bilirubin level in another study ^[4]. Amin et al. ^[5] claimed that the best indicator for the toxic effect of hyperbilirubinemia on the hearing system is the level of indirect bilirubin level not total serum bilirubin. In the literature, there is no information about the relationship between MOC efferent system and total bilirubin level or indirect bilirubin level as mentioned by authors.

Therefore, I believe that not being able to find a relationship between MOC reflex activity and total serum bilirubin level is a very important conclusion with high citation probability. This result will be also essential for future studies about the relationship between MOC reflex activity and indirect bilirubin levels. However, this conclusion should be proven with the correct statistics, data, and graphics.

Peer-review: Externally peer-reviewed.

Conflict of Interest: The author has no conflict of interest to declare.

Financial Disclosure: The author declared that this study has received no financial support.

REFERENCES

1. Karabulut B, Sürmeli M, Bozdağ Ş, Deveci İ, Doğan R, Oysu Ç. Effect of Hyperbilirubinemia on Medial Olivocochlear System in Newborns. J Int Adv Otol 2019; 15: 272-6. [\[Crossref\]](#)

Corresponding Address: Fulya Özer E-mail: fdeveci06@hotmail.com

Submitted: 04.29.2020 • **Accepted:** 06.02.2020

Available online at www.advancedotology.org



2. NJ Gogtay, UM Thatte. Principles of Correlation Analysis. J Assoc Physicians India 2017; 65: 78-81.
3. Jiang ZD, Brosi DM, Wilkinson AR. Changes in BAER wave amplitudes in relation to total serum bilirubin level in term neonates. Eur J Pediatr 2009; 168: 1243-50. [\[Crossref\]](#)
4. Jiang ZD, Chen C, Liu TT, Wilkinson AR. Changes in Brainstem Auditory EvokedResponse Latencies in Term Neonates with Hyperbilirubinemia. Pediatr Neurol 2007; 37: 35-41. [\[Crossref\]](#)
5. Amin SB, Saluja S, Saili A, Orlando M, Wang H, Laroia N, et al. Chronic Auditory Toxicity in Late Preterm and Term Infants with Significant Hyperbilirubinemia. Pediatrics 2017; 40: e20164009. [\[Crossref\]](#)