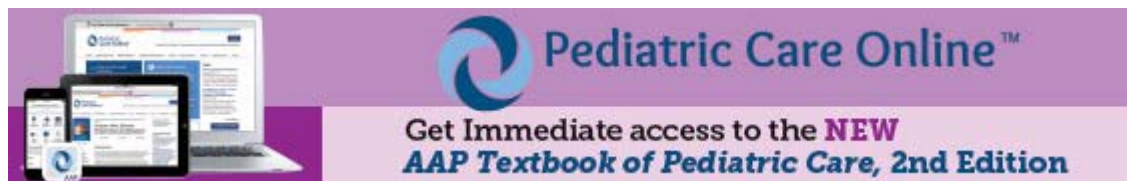


Sign up for [Insight Alerts](#) highlighting editor-chosen studies with the greatest impact on clinical care.



Pediatric Care Online™
Get Immediate access to the **NEW**
AAP Textbook of Pediatric Care, 2nd Edition



[Advertising Disclaimer »](#)

[Tools and Links](#)

[Pediatrics](#)
October 2017, VOLUME 140 / ISSUE 4

Chronic Auditory Toxicity in Late Preterm and Term Infants With Significant Hyperbilirubinemia

Sanjiv B. Amin, Satish Saluja, Arvind Saili, Mark Orlando, Hongyue Wang, Nirupama Laroia, Asha Agarwal

[Article](#) [Figures & Data](#) [Info & Metrics](#) [Comments](#)

[Download PDF](#)

Abstract

BACKGROUND AND OBJECTIVES: Significant hyperbilirubinemia (SHB) may cause chronic auditory toxicity (auditory neuropathy spectrum disorder and/or sensorineural hearing loss); however, total serum bilirubin (TSB) does not discriminate neonates at risk for auditory toxicity. Our objective was to compare TSB, bilirubin albumin molar ratio (BAMR), and unbound bilirubin (UB) for their association with chronic auditory toxicity in neonates with SHB (TSB \geq 20 mg/dL or TSB that met criteria for exchange transfusion).

METHODS: Infants \geq 34 weeks' gestational age (GA) with SHB during the first 2 postnatal weeks were eligible for a prospective longitudinal study in India. Comprehensive auditory evaluations were performed at 2 to 3 months of age by using auditory brainstem response, tympanometry, and an otoacoustic emission test and at 9 to 12 months of age by using audiometry. The evaluations were performed by an audiologist unaware of the degree of jaundice.

RESULTS: A total of 93 out of 100 infants (mean GA of 37.4 weeks; 55 boys, 38 girls) who were enrolled with SHB were

evaluated for auditory toxicity. Of those, 12 infants (13%) had auditory toxicity. On regression analysis controlling for covariates, peak UB (but not peak TSB or peak BAMR), was associated with auditory toxicity (odds ratio 2.41; 95% confidence interval: 1.43–4.07; $P = .001$). There was significant difference in the area under the receiver operating characteristic curves between UB (0.866), TSB (0.775), and BAMR (0.724) for auditory toxicity ($P = .03$) after controlling for covariates.

CONCLUSIONS: Unconjugated hyperbilirubinemia indexed by UB (but not TSB or BAMR) is associated with chronic auditory toxicity in infants ≥ 34 weeks' GA with SHB.

Accepted July 17, 2017.

- Copyright © 2017 by the American Academy of Pediatrics

[View Full Text](#)

Log in using your username and password

[Forgot your user name or password?](#)

Log in through your institution

You may be able to gain access using your login credentials for your institution. Contact your library if you do not have a username and password.

[Pay Per Article](#) - You may access this article (from the computer you are currently using) for 2 days for US\$25.00

[Regain Access](#) - You can regain access to a recent Pay per Article purchase if your access period has not yet expired.

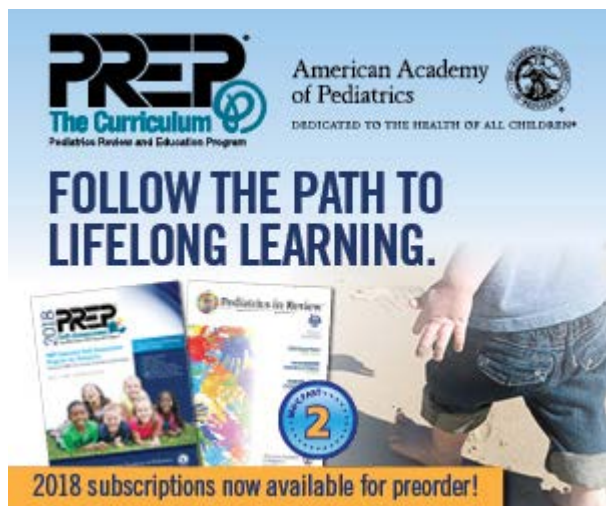
[Offer Reprints](#)



Previous

Next





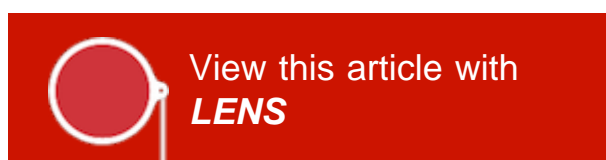
PREP
The Curriculum
Pediatrics Review and Education Program

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN

FOLLOW THE PATH TO LIFELONG LEARNING.

2018 subscriptions now available for preorder!

[Advertising Disclaimer »](#)



View this article with
LENS

Previous Next

Email

Permissions

Alerts

Citation Tools

Share

Print

PDF

Insight Alerts

Table of Contents

[Early Release](#)

[Current Issue](#)

[Past Issues](#)

[AAP Policy & Collections](#)

[Editorial Board](#)

[Editorial Policies](#)

[Overview](#)

[Open Access](#)

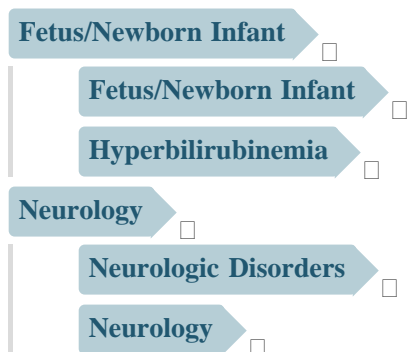
[Pediatric Collections](#)

[Author Guidelines](#)

[Reviewer Guidelines](#)

[Submit My Manuscript](#)

Subjects



Related Articles

1. [Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation](#)
Subcommittee on Hyperbilirubinemia, Pediatrics, 2004
2. [Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation](#)
Subcommittee on Hyperbilirubinemia, Pediatrics, 2004
3. [Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation](#)
Subcommittee on Hyperbilirubinemia, Pediatrics, 2004
4. [Toward Understanding Kernicterus: A Challenge to Improve the Management of Jaundiced Newborns](#)
Richard P. Wennberg et al., Pediatrics, 2006
5. [The Effect of Instituting a Prehospital-Discharge Newborn Bilirubin Screening Program in an 18-Hospital Health System](#)
Larry D. Eggert et al., Pediatrics, 2006

1. [Benefits and harms of screening infants for hyperbilirubinemia still unclear](#)
AZoNetwork, 2009
2. [Jaundice an unreliable method of predicting the baby's risk of hyperbilirubinemia](#)
AZoNetwork, 2009
3. [Jaundice in Newborns](#)
Liji Thomas, MD, AZoNetwork
4. [Early postpartum visits with pediatricians may help prevent a dangerous complication associated with jaundice](#)
AZoNetwork, 2004
5. [Jaundice screening requires bilirubin assessment as well as clinical factors](#)
Piriya Mahendra et al., AZoNetwork, 2012

Powered by TrendMD

[Back to top](#)



Copyright (c) 2017 by American Academy of Pediatrics

[International Access](#) »

[Terms of Use](#)

[Privacy Statement](#)

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™