



Pediatric Academic Societies Meeting

Test and Treatment Decision Thresholds for Early Onset Neonatal Sepsis (Board 450)

Mon, May 07

Convention Center Exhibit Hall DE

Poster Session

May 5 - 8, 2018 | Toronto Canada

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3853 Neonatal Infectious Diseases/Immunology: Bacterial Infection and Sepsis I
guinsburg 5:45 PM - 7:30 PM [Enviar](#)

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Info

Background:

Decision thresholds are critical components of evidence based decision making. Providers must assess their patient's disease risk and determine if it exceeds their threshold for additional testing or treatment. Neonatal early onset sepsis (EOS) occurs infrequently but is associated with significant morbidity and mortality. Less than 1 in 1000 newborns have EOS but 15% have blood tests and 5-10% receive antibiotics. The Kaiser-Permanente (KP) Sepsis Calculator is a decision aid that estimates risk and makes testing and treatment recommendations. The KP calculator recommends blood testing for EOS risk > 1 per 1000 and antibiotics for EOS risk > 3 per 1000. These decision thresholds are not empirically derived, not transparent on the calculator and not adjustable by the user. [Ruth Guinsburg, Universidade Federal de São Paulo, São Paulo, SP, Brazil](#)

Objective:

(1) Identify EOS test and treatment decision thresholds among an international sample of neonatal health providers. (2) Determine if these thresholds are consistent with those used by the KP calculator.

Design/Methods:

Electronic survey distributed to neonatal health providers by the American Academy of Pediatrics, Brazilian Network on Neonatal Research, and Italian Society of Neonatology. From structured lists, respondents chose the EOS risk (range 1/25 to 1/4000) that would lead them to order a blood culture or start empiric antibiotics. Median and interquartile range (IQR) used to describe data.

Results:

Among all 988 respondents (n=411 USA, n=285 Brazil, n=292 Italy), the thresholds for blood testing (1 in 250 risk of EOS; IQR 1/100 to 1/1000) and antibiotic treatment (1 in 100 risk of EOS; IQR 1/25 to 1/250) were significantly higher than the KP calculator thresholds (Figures 1 and 2, p < 0.001). Although respondents in the USA had lower thresholds for blood testing (1/500 risk) and starting antibiotics (1/100 risk) compared with both Brazil and Italy (1/100 risk for blood testing and 1/50 risk for treatment, p < 0.001), their decision thresholds were still significantly higher than those used by the KP calculator (p < 0.001).

Conclusion(s):

Empirically derived test and treatment thresholds are widely distributed and vary by geography. The KP calculator recommends blood culture and antibiotics for newborns with significantly lower EOS risk than would be selected by most providers in all 3 countries. Decision aids for EOS should reflect empirically derived thresholds or be adjustable by users to reflect individual, institutional or national consensus decision thresholds.

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Authors

Sharla Rent

University of Michigan
Ann Arbor, Michigan, United States

Holly Brine

Toledo Children's Hospital

Maria Fernanda de Almeida

Universidade Federal de São Paulo
São Paulo, Brazil

Ruth Guinsburg

Universidade Federal de São Paulo
São Paulo, SP, Brazil

Ligia Rugolo

Universidade Federal de São Paulo

DANIELE TREVISANUTO

UNIVERSITY OF PADOVA
PADOVA, Italy

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