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Letter to Editor

# An Insight into Diagnostics of Neonatal Sepsis

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## Letter to Editor

Dear Editor,

We read with great interest the article by Yan Jin et al [1]. regarding the diagnostic value of PTX-3 combined with PCT and CRP for neonatal sepsis. This study presents significant advancements in the diagnostic approach to neonatal sepsis, particularly through the evaluation of serum PTX-3 levels.

While the study's parameters are well-considered, we propose the inclusion of additional indicators in future research to enhance the reproducibility and generalizability of the findings. The authors have commendably measured changes in serum PTX-3 levels in neonates with and without sepsis and highlighted the diagnostic advantages of PTX-3 compared to traditional markers such as WBC, CRP, and PCT.

Given that the study was conducted in China, it appropriately references the national guidelines for neonatal sepsis diagnosis, specifically "The expert consensus on the diagnosis and treatment of neonatal sepsis [2]" prepared by the Neonatal Group of the Chinese Pediatric Society, Chinese Medical Association (2019). This local epidemiological consideration is laudable. However, the inclusion of the internationally standardized Töllner Sepsis Score [3] could have provided a more universally applicable diagnostic framework.

The study aims to identify an effective diagnostic test for the early detection of neonatal sepsis. While PTX-3 shows promise, the economic feasibility of its widespread use, particularly in developing countries and across various socioeconomic classes, needs to be addressed. Screening tests for early diagnosis must be not only accurate but also accessible and affordable.

The article accurately discusses the limitations of current diagnostic tests, such as the impact of antimicrobial administration and the timing between test administration and symptom onset. The administration of antimicrobials can lead to reduced biomarker responses, potentially resulting in false negatives that fail to alert caregivers. Additionally, traditional markers like CRP and PCT have optimal timing windows for testing, beyond which their diagnostic accuracy diminishes. It is concerning that the study did not clarify whether patient samples were collected before or after the initiation of antimicrobial therapy. Furthermore, the interval between symptom onset and sample collection was not addressed, a factor that could significantly influence the results.

Future studies should account for these variables to ensure the reliability and validity of the findings. Specifically, documenting the timing of sample collection relative to antimicrobial administration and symptom onset would provide a clearer understanding of the biomarkers' diagnostic utility. Moreover, incorporating a cost-benefit analysis of PTX-3 as a screening tool could inform its practical application in diverse healthcare settings.

In conclusion, the study by Yan Jin et al. contributes valuable insights into the diagnosis of neonatal sepsis. However, addressing the noted limitations and incorporating additional standardized diagnostic criteria could enhance the study's reproducibility and impact. We advocate for comprehensive future research that includes these considerations to advance the





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early and accurate diagnosis of neonatal sepsis, ultimately improving neonatal care outcomes.

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