

This study aimed to analyze articles on the clinical usefulness of catheter-drawn blood samples and catheter tip cultures for the diagnosis of intravascular catheter-related bloodstream infection (CRBSI) in neonates” Ferreira et al (2017).

Abstract:

Objectives: Neonatal sepsis is the most frequent health care-associated infection in neonatal units. This study aimed to analyze articles on the clinical usefulness of catheter-drawn blood samples and catheter tip cultures for the diagnosis of intravascular catheter-related bloodstream infection (CRBSI) in neonates.

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Methods: A systematic search was performed for studies published from 1987-2017, without language restriction. Observational studies carried out in neonates with CRBSI diagnosed using catheter-drawn blood samples or catheter tip cultures were included.

Results: A total of 412 articles were identified in the databases and 10 articles were included. The 7 studies that evaluated central venous catheter tip cultures and cultures of catheter fragments presented sensitivities ranging from 58.5%-100% and specificities ranging from 60%-95.7%. Three studies that evaluated catheter-drawn blood cultures, paired with peripheral blood cultures, reported sensitivity and specificity of 94% and 71% when evaluated for the differential time to positivity. When quantitative evaluation was performed, the sensitivity and specificity were 80% and 99.4%.

Conclusions: Most of the studies analyzed cultures from the central venous catheter tip and catheter fragments for the diagnosis of CRBSI in neonatal populations. The results of this review suggest that the analysis of the catheter-drawn blood samples and catheter tip cultures, paired with peripheral blood cultures, are efficient methods for the diagnosis of CRBSI in neonates.

Clinical usefulness of catheter-drawn blood samples and catheter tip cultures for the diagnosis of catheter-related bloodstream infections in neonatology: A systematic review

Reference:

Ferreira, J., Camargos, P.A.M., Clemente, W.T. and Maia de Castro Romanelli, R. (2017) Clinical usefulness of catheter-drawn blood samples and catheter tip cultures for the diagnosis of catheter-related bloodstream infections in neonatology: A systematic review. American Journal of Infection Control. August 11th. .

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