

Differential time to positivity and quantitative cultures for noninvasive diagnosis of catheter-related blood stream infection in children

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Background: Accurate diagnosis of catheter-related blood stream infection (CRBSI) is necessary to make a decision about removal of the catheter. Differential time to positivity (DTP) and the ratio of quantitative cultures (RQC) between central and peripheral blood cultures have not been evaluated against a strict standard in children, namely catheter tip culture. **Objective:** Our aim is to compare DTP and RQC in the diagnosis of catheter tip-confirmed catheter-related infection in children.

Method: Prospective study performed in 2 large hospitals in Santiago, Chile. Children with clinically suspected CRBSI had 2 peripheral and central vein blood samples obtained for automated culture in Bact/Alert and for quantitative cultures in 5% sheep blood agar plate. The catheter tip was cultured.

Sensitivity, specificity, positive predictive value, negative predictive value, likelihood ratios (LR), and accuracy of DTP and RQC were compared against catheter tip-confirmed CRBSI. **Results:** During a

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