Our objective was to compare the yield of traditional roll-plate technique (TRP), roll-plate after slicing (RPS), and sonication after slicing (SS) for the detection of colonization and C-RBSI in SN-PICCs" Guembe et al (2017).

Abstract:

Objective: Silicone neonatal peripherally inserted central catheters (SN-PICCs) are a common cause of catheter-related bloodstream infection (C-RBSI) in neonates. Our objective was to compare the yield of traditional roll-plate technique (TRP), roll-plate after slicing (RPS), and sonication after slicing (SS) for the detection of colonization and C-RBSI in SN-PICCs.

Methods: We prospectively cultured tips from SN-PICCs withdrawn from pediatric patients admitted to our institution with suspicion of infection. We first cultured the catheter tip using TRP and then divided the catheter into 2 segments. RPS was performed by longitudinally slicing one segment and the fragments were cultured. SS was performed by transversally slicing other segment followed by culture after sonication. We calculated the validity values of each technique individually by comparing it with the diagnostic standard of colonization and C-RBSI.

Results: We included 162 SN-PICCs, 46 of which were colonized. Sensitivity rates for colonization and C-RBSI with TRP, RPS, and SS were, respectively, 71.7%, 80.4%, and 67.4%; and 74.2%, 90.3%, and 77.4%.

Conclusion: Catheter slicing should be performed before the roll-plate technique to ensure optimal diagnosis on SN-PICCs.

Reference:

Guembe, M., Martín-Rabadán, P., Cruces, R., Granda, M.J.P. and Bouza, E. (2017) Slicing silicone neonatal vascular catheter tips improves colonization detection by the roll-plate technique. Clinical Microbiology and Infection. January 18th. .

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