



Intravenous literature: Walshe, C., Bourke, J., Lynch, M., McGovern, M., Delaney, L. and Phelan, D. (2012) Culture Positivity of CVCs Used for TPN: Investigation of an Association with Catheter-Related Infection and Comparison of Causative Organisms between ICU and Non-ICU CVCs. *Journal of Nutrition and Metabolism*. Apr 19 .

Abstract:

A relationship between central venous catheter (CVC) tip colonisation and catheter-related blood-stream infection (CRBSI) has been suggested. We examined culture positivity of CVC tips (colonised and infected CVCs) in a total parenteral nutrition (TPN) population. Our aims were to define the relationship between culture positivity and CRBSI, and to compare causative organisms between culture positive and CRBSI CVCS, and between ward and ICU CVCs. All patients receiving TPN via non-tunnelled CVCs during the study (1997-2009) were included. All CVC tips were analysed. Data were collated contemporaneously. A TPN audit committee determined whether CVC tip culture positivity reflected colonisation/CRBSI using CDC criteria. 1,392 patients received TPN via 2,565 CVCs over 15,397 CVC days. 25.4% of CVCs tips were culture positive, of these 32% developed CRBSI. There was a nonsignificant trend of higher Gram negative Bacilli isolation in ICU CVCs ($P = 0.1$), ward CVCs were associated with higher rates of staphylococcal isolation ($P = 0.01$). A similar pattern of organisms were cultured from CRBSI and culture positive CVCs. The consistent relationship between CRBSI and culture positive CVCs, and similar pattern of causative organisms further supports an aetiological relationship between culture positive CVC tips and CRBSI, supporting the contention that CVC culture-positivity may be a useful surrogate marker for CRBSI rates.



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