

Abstract:

BACKGROUND: The benchmark for contaminated blood cultures (BCs) is 3%. The South African (SA) guideline aims to optimise BC yield and reduce contamination. Data on BC collection practices in SA since the publication of the 2010 SA guideline are lacking.

OBJECTIVE: To evaluate compliance with the national guideline for the optimal use of BCs and determine the BC contamination rate at a local district hospital.

METHOD: An audit of compliance with 22 BC standards was conducted at a district hospital in Cape Town, SA. Standards were evaluated by reviewing clinical and laboratory data and by a clinician questionnaire.

RESULTS: Of the 425 BCs reviewed, 12.5% had positive growth, and 4.5% grew contaminants. Only 33% of BC bottles contained the recommended fill volume of 8 - 10 mL, and 96.9% of patients had a single BC within a 24-hour period. Of all the BCs, only 7.8% had a combined blood volume of at least 20 mL. The yield of pathogens in BCs collected after antibiotic exposure was 4.9% compared with 7.5% for those cultures with no prior antibiotic exposure ($p=0.3$). The overall median needle-to-incubator transport time was 11 hours 25 minutes.

CONCLUSION: The BC contamination rate was high and compliance with most standards was variable or not met. The findings may not be generalisable to other hospitals, and we recommend that each institution reviews its own BC practices. Recommendations made to hospital staff included a re-audit following implementation of these recommendations.

Reference:

Abrahams, M.S., Whitelaw, A.C. and Orth, H. (2015) Time for a culture change? Suboptimal compliance with blood culture standards at a district hospital in Cape Town. *South African Medical Journal*. 105(12), p.1039-43. doi: 10.7196/SAMJ.2015.v105i12.9442.