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Assessment of the use of blood cultures in the detection of bacteremia

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Background: Research suggests expeditious and appropriate antimicrobial therapy can reduce mortality among patients with bacteremia. However, the reliable identification of indicators for bloodstream infections (BSI) requiring treatment remains challenging. Blood culture (BCx) contamination can delay treatment, lead to unnecessary antimicrobial therapy or impaired diagnosis. Thus, the clinical indications for BCx are important for the detection of bacteremia.

Methods: All BCx taken at MRHT (1 Oct – 1 Dec 2020) were prospectively studied.

Results: A total of 543 BCx were collected. Indications associated with true positive results included: Febrile episode (>38 °C): 15 BCx (6%), Tachypnoea (>22): 12 BCx (13%), white cell count (>10×10⁹ cells/L): 16 BCx (11%), Lactate (>2): 14 BCx (21%). Number of positive BCx results: 65 (11.9%), number of true positive: 41 (8%), number of contaminated BCx results: 24 (4%).

Conclusions: Our results suggest that the current use of BCx as a diagnostic tool could be optimised and perhaps a specific protocol outlining the indications should be introduced at MRHT.

Keywords: Bacteremia; blood cultures; sepsis; pyrexia; indications

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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