

Blood cultures positive for coagulase-negative Staphylococci: First study in Malaysia on clinical significance, financial impact, treatment outcomes

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ABSTRACT

Introduction: Coagulase-negative Staphylococci (CoNS) are increasingly recognised as a common cause of nosocomial bloodstream infections and the leading cause of blood culture contaminants in the medical field. Determination of clinical significance of coagulase-negative staphylococci and its profound impact on antibiotics administrations in hospitals and mortality rate was based on published study. **Materials and methods:** Patients above 13 years old with at least one positive blood culture from January 2017 to May 2020 with CoNS bacteremia were screened and those who fulfilled the inclusion criteria were analysed. True CoNS bacteremia was defined based on a previous study and any CoNS bloodstream infection that does not fulfill these criteria was regarded as a contaminant. **Results and conclusion:** A total of 1,119 positive blood cultures for CoNS were found. After applying the inclusion and exclusion criteria, only 318 episodes of CoNS bacteremia remained and were analyzed. 147 (46.2%) were detected as true BSI and 171 (53.8%) were deemed as contaminants. Patients with central venous lines were associated with true CoNS bacteremia, accounting for 11.6% compared to those in the contaminant group with less than one percent (0.6%), $P < 0.001$. There was no significant difference in hospital mortality between patients defined as true CoNS BSI who were appropriately treated 19(27.5%) and those who were not appropriately treated 15 (19.2%) $P = 0.233$. A staggering 78(24%) of true CoNS bacteremia was not treated appropriately. However, only 6 (2%) of the contaminant episodes were treated resulting in an additional total cost of RM 3,081.60 compared to the cost of treating true CoNS bacteremia episodes in our study which amounted to RM 35,438.40.