Burkholderia cepacia bloodstream infections traced to the use of Ringer lactate solution as multiple-dose vial for catheter flushing | 1

Abstract:

The Burkholderia cepacia complex is a group of Gram-negative bacteria known as respiratory pathogens in cystic fibrosis patients, but also increasingly reported as a cause of healthcare associated infections. We describe an outbreak of B. cepacia bloodstream infections in a referral hospital in Phnom Penh, Cambodia. Over a 1.5-month period, blood cultures from eight adult patients grew B. cepacia. Bloodstream infection occurred after a median of 2.5 days of hospitalisation. Three patients died: 7, 10 and 17 days after blood cultures were sampled. As part of the outbreak investigation, patient files were reviewed and environmental sampling was performed. All patients had peripheral venous catheters that were flushed with Ringer lactate drawn from a 1 L bag, used as multiple-dose vial at the ward. Cultures of unopened Ringer lactate and disinfectants remained sterile but an in-use bag of Ringer lactate solution and the dispensing pin grew B. cepacia. The isolates from patients and flushing solution were identified as B. cepacia by recA gene sequence analysis, and random amplified polymorphic DNA typing confirmed clonal relatedness. The onset of the outbreak had coincided with the introduction of a dispensing pin with a screw fit that did not allow proper disinfection. Re-enforcement of aseptic procedures with sterile syringe and needle has ended the outbreak. Growth of B. cepacia should alert the possibility of healthcare
Burkholderia cepacia bloodstream infections traced to the use of Ringer lactate solution as multiple-dose vial for catheter flushing. The use of multiple-dose vials should be avoided and newly introduced procedures should be assessed for infection control risks.