



Ultrasound Gel Contamination and the Outbreak of *Burkholderia cepacia* complex in the Neonatal and Intensive Care Unit population

Polyclonal outbreak of bacteremia caused by *Burkholderia cepacia* complex and the presumptive role of ultrasound gel

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The Brazilian Journal of Infectious Diseases, 2015;19(5):543-545

Summary and Methods

The authors describe an outbreak of *Burkholderia cepacia* complex (BCC) in Neonatal Unit and Intensive Care Unit patients in Argentina, between April and July 2013. Charts were reviewed, and microbiological testing of potential sources were performed.

Discussion and Results

The outbreak involved 11 patients. Seven of these patients were from the Neonatal Unit (NU) and were preterm with respiratory distress. Three patients were from the Intensive Care Unit (ICU), two of which were recovering from cardiovascular surgery. One patient was from the General Ward. The range of time it took BCC to develop was five and a half days in these patients and each patient had undergone an average of five ultrasounds.

Eighty samples from various sources including: antiseptics, drugs, multiple surfaces in the surgical room, ICU and NU, and miscellaneous gels, ultrasound gel being one, were cultured for BCC. "BCC stains were isolated only from ultrasound scanning gels." An unopened five Liter container of ultrasound gel displayed BCC growth. BCC strains can hydrolyze parabens which are commonly added as stabilizers to ultrasound gel. This makes survival and proliferation of BCC bacteria possible in gel.

Conclusions

This report is the third outbreak of BCC presumably related to ultrasound gel. It is surmised that the invasive procedures on these patients made them more susceptible to bacterial growth after significant exposure to BCC colonization within the gel. The sudden appearance of these BCC cases, the BCC in the ultrasound gel, including unopened containers, and the cessation of new cases after gel was removed from practice, led to the speculation of contaminated ultrasound gel being the source of the nosocomial BCC outbreak.

Author Commentary

"BCC stains were isolated only from ultrasound scanning gels."

"BCC was also isolated from an intrinsically contaminated ultrasound gel, which constituted the presumptive BCC source."