Letter to the Editor

Ensuring Patient Safety; Burkholderia Cepacia Infections Spread via Ultrasound Gel and Probes

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Dear Editor,

We are writing to bring your attention to a persistent issue related to the transmission of Burkholderia cepacia infections through ultrasound gel and probes. This matter is of global concern, posing significant risks to patient safety in healthcare environments. Ultrasound gel, commonly used in various diagnostic and therapeutic techniques, has been linked to multiple outbreaks involving various microbial organisms.[1]

Multiple previous studies have reported Burkholderia cepacia associated bacteremia resulting from gel contamination on an ultrasound probe used for central venous catheter insertion. This finding underscores the urgent need for raising awareness about the potential role of ultrasound gel as a significant source of infection.[2-6] Additionally, Chittick et al. highlighted an outbreak of respiratory tract infections caused by Pseudomonas spp., prompting the US Food and Drug Administration (FDA) to emphasize the importance of using sterile gel, especially for critical procedures. The FDA stressed that, for patient safety, only unopened and labeled sterile ultrasound gel should be employed.[7]

Moreover, other equipment used in ultrasound examination procedures, such as probes, probe holders, keyboards, and cables, are in constant contact with patients during procedures, posing a substantial risk of colonization and infection with different microorganisms. Pathogenic bacteria and fungi, like Candida, can survive for extended periods on dry inert surfaces, while viruses can persist for weeks in such environments.[1] The survival of these pathogens on contaminated ultrasound probes and gels poses a serious threat to vulnerable populations, including immunocompromised and diabetic individuals, infants, and patients with existing skin and soft tissue infections.

Despite the identified risk of Burkholderia cepacia complex transmission, guidelines for the cleaning, disinfection, or sterilization of different medical equipment, specifically ultrasound probes and gels used in both invasive and noninvasive procedures, are not well-documented. According to the Spaulding classification, the use of ultrasound probes on intact skin is designated as noncritical, allowing for the use of mild disinfectants. However, limited guidelines are available regarding the sterilization process of ultrasound equipment in our country.[2]

To address this pressing concern, healthcare providers must adhere to strict infection control measures. These measures include consistent adherence to hygiene practices, consideration of single-use ultrasound gel packets, effective cleaning and disinfection of ultrasound probes, proper utilization of probe covers, regular maintenance and inspection of equipment, comprehensive guidelines, and regular training on infection control practices. Implementation of effective programs for environmental monitoring and screening of patients for colonization or infection from bacterial pathogens is also essential.

In conclusion, addressing this issue is crucial to preventing the spread of Burkholderia cepacia infections via ultrasound gel and probes. By implementing robust infection control measures, healthcare providers can mitigate the risk of infection transmission and safeguard patient well-being during ultrasound procedures.

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