

Ultrasound Gel as a Vector: Investigation and Containment of a Burkholderia Cepacia Outbreak

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Background:

Burkholderia cepacia (B. cepacia) is an emerging opportunistic pathogen among immunocompromised patients. It frequently contaminates saline, fluids and ultrasound Gel used in hospitals.

Objectives:

To investigate, prevent, and control an outbreak of B. cepacia in a Transplant Center.

Method:

The Infection Control team identified a sudden surge in B. cepacia cultures. A Total of 31 patients tested positive with most isolates from blood cultures (19 cases), followed by urine (9) and single cases from wound swab, tracheal aspirate and tissue culture.

Most patients didn't develop active infections but two (2) BMT unit patients developed Central Line associated Blood Stream Infections (CLABSI). Both received treatment, responded well and were discharged.

To identify the source, environmental cultures were carried out from various areas. Samples were collected from water sources, hand hygiene products, antiseptic solutions, and multiple ultrasound gel containers (in-use, new, single-use sterile gel).

Results:

Multiple samples from the ultrasound gel were tested positive for *B. cepacia* (Table 1).

Conclusion:

The outbreak of *B. cepacia* was linked to contaminated ultrasound gel used in various areas. Timely investigation, environmental sampling and identification of the point source enabled effective containment. Widespread infections did not occur and affected patients responded well to treatment.

Contaminated gels were replaced by single use sterile gel. Practices for using, storing, and handling of ultrasound gel were improved.

Staff were educated on infection control measures, emphasizing proper handling and disposal of contaminated materials.

Table # 1: Summary of the collected Samples and Results			
Sr.#	Sample Type	Growth	Department
1.	Main Counter Tap Water	Negative	Dialysis
2.	Main Counter Soap	Negative	
3.	Hand Sanitizer Solution	Negative	
4.	Pyodine Solution	Negative	
5.	Potable tank Water	Negative	
6.	Pyodine Solution	Negative	Acute Medical Unit (AMU)
7.	Ultrasound Gel (in use)	Burkholderia cepacia	
8.	New Ultrasound Gel container	Burkholderia cepacia	
9.	Swab from AMU sink	Aeromonas hydrophilla, AcinetobacteSpp ,Burkholderia cepacia	
10.	Ultrasound Gel (in use)	Burkholderia cepacia	Intensive care unit (ICU)
11.	New Ultrasound Gel container	Burkholderia cepacia	
12.	Recently Filled Gel	Burkholderia cepacia	
13.	Gel (Bottle with Red Cap)	Burkholderia cepacia	
14.	Gel (bottle with White Cap)	Burkholderia cepacia	
15.	Single Use Sterile Gel (pouch)	Negative	
16.	New Ultrasound Gel container	Burkholderia cepacia	Bone marrow transplant (BMT)
17.	Ultrasound Gel (in use)	Burkholderia cepacia	
18.	Single Use Sterile Gel (pouch)	Negative	
19.	New Ultrasound Gel container	Burkholderia cepacia	Supply Chain Department
20.	Single Use Sterile Gel (pouch)	Negative	
21.	Single Use Sterile Gel (pouch)	Negative	
22.	Single Use Sterile Gel (Tube)	Negative	