Positive Predictive Value of Leeds *Acinetobacter* Medium for Environmental Surveillance of *Acinetobacter baumannii*

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Infections caused by *Acinetobacter baumannii* often occur in outbreaks during which the bacteria are spread through contact with clinical personnel harboring the bacteria and from colonized hospital equipment (2). Environmental surveillance of hospital surfaces is useful in determining if equipment is colonized by *A. baumannii* and identifying the sources of hospital outbreaks (3, 5, 6). Leeds *Acinetobacter* medium (LAM) is a differential medium developed to selectively support the growth of *Acinetobacter* species (4). LAM contains cefsulodin and cephradine to inhibit the growth of Gram-negative bacteria and vancomycin to prevent Gram-positive growth. LAM also contains fructose and sucrose, which are not fermented by *Acinetobacter* species, resulting in pink coloration of the medium upon growth of *Acinetobacter* species. To our knowledge, three studies have employed LAM for environmental surveillance of *A. baumannii* (1, 4, 7). However, these studies did not report the positive predictive value of LAM and did not characterize bacterial species other than *Acinetobacter* species that are isolated from environmental surfaces after growth on LAM.

In the present study, 100 samples were collected from environmental surfaces in the intensive care units at the Virgen del Rocío University Hospital using sterile swabs

moistened with physiologic saline. Samples were collected from patient beds, bedside tables, alcohol-based hand rub dispensers, IV poles, bedside chairs, equipment carts, infusion pumps, patient records, doorknobs, keyboards, storage cabinets, nurses' stations, sinks, light switches, heating vents, ambu-bags, dialysis units, telephones, and ultrasound equipment. After sample collection, swabs were placed in 1 ml of Luria-Bertani broth and incubated at 37°C for 24 h with shaking at 220 rpm, as incubation of samples in nonselective media has been shown to be effective for isolation of *A. baumannii* (1, 6). One hundred microliters of the enrichment culture was spread on LAM plates (Hardy Diagnostics, CA) and incubated for 16 h at 37°C. Bacteria that grew on LAM plates were identified to the species level by matrix-assisted laser desorption ionization–time of flight mass spectrometry (MALDI-TOF) (Bruker Daltonics).

Fifty-seven of the 100 samples resulted in no growth on LAM. Of the 43 samples with growth, 39 were identified as *A. baumannii* and 4 were identified as *Klebsiella pneumoniae*, resulting in a positive predictive value of 90.7% (95% confidence interval [CI], 78.4 to 96.3%) for colonization with *A. baumannii* when growth occurred on LAM and a false-positive rate of 9.3% (95% CI, 3.0 to 23.1%). Interestingly, the original description of LAM reported that *Stenotrophomonas*, *Burkholderia*, *Citrobacter*, and *Serratia* species could grow on LAM but that *Klebsiella* species are unable to grow on this medium (4).

K. pneumoniae could be easily differentiated from *A. baumannii* after streaking on LAM, as *K. pneumoniae* produced yellow colonies on a yellow background, whereas *A. baumannii* produced pink colonies on a mauve background.

In summary, LAM permits the growth of *K. pneumoniae* in addition to *A. baumannii*. However, the high positive predictive value of growth on LAM (90.7%) for detecting the presence of *A. baumannii* in environmental samples indicates that this medium may be useful for detecting colonized surfaces in the hospital setting.

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