Analysis of drug-resistant gene detection of blaOXA-like genes from Acinetobacter baumannii


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ABSTRACT. Our study determines the resistance gene profile of a set of Acinetobacter baumannii hospital isolates. A. baumannii is responsible for nosocomial outbreaks and sporadic infections. We extracted and PCR amplified bacterial DNA isolated from patients with ages below 60 years (23.36%) and above 60 years (76.64%). Most of the patients were admitted in the ICU (36.13%) and pneumology departments (28.47%). Of 164 isolated strains, 16 (9.75%) contained OXA-51, 8 (4.88%) contained OXA-58, and 140 (85.37%) contained both OXA-51 and OXA-23. Additionally, 8 (7.41%) strains containing OXA-58 and 100 (92.59%) strains containing both OXA-51 and OXA-23 showed multidrug-resistance. Drug resistance rates of A. baumannii to amikacin, tobramycin-levofoxacin, and cotrimoxazole were above 90%, while drug resistance rates to ampicillin, cefotetan, cefazolin, cefoperazone, and nitrofurantoin were 100%. In conclusion, we found that isolated strains containing OXA-51 and OXA-23 were more likely to be resistant or have decreased sensitivity to carbapenems.

Key words: Acinetobacter baumannii; Drug-resistant gene; OXA-51; OXA-23; OXA-24; OXA-58