

**TITLE:** FREQUENCY AND ANTIMICROBIAL PROFILE OF NOSOCOMIAL *Acinetobacter baumannii* STRAINS ISOLATED FROM DIFFERENT TEACHING HOSPITALS IN CEARÁ, BRAZIL

**AUTHORS:** BRITO, I.L.P. MORAIS, A.J.A.; FONSECA, M.X.Q.C.; RODRIGUES, M.R.P.; PINTO, V.P.T ; BRAGA, J.M.;ROCHA, R.R.; ARAÚJO, A.K.; ARAGÃO, P.T.T.D.; BARBOSA, F.C.B.

**INSTITUTION:** FEDERAL UNIVERSITY OF CEARÁ - UFC, SOBRAL, CE (Av. Comandante Maurocelio Rocha Pontes, 100 - Derby, CEP 62042-280, SOBRAL, CE); SANTA CASA DE MISERICÓRDIA DE SOBRAL, SOBRAL-CEARÁ (R. Antônio Crisóstomo de Melo, 919 - Centro, CEP 62010-550, SOBRAL, CE).

**ABSTRACT:**

*Acinetobacter baumannii* is one of the Gram-negative coccobacilli most commonly involved in health care associated with serious infections. The emergence of resistance in genomic species of *Acinetobacter* spp. is an important problem, which makes this microorganism difficult to treat. The aim of this study was to detect the frequency of *Acinetobacter baumannii* isolated from patients diagnosed with nosocomial infection in different teaching hospitals in Ceará and to investigate the antimicrobial susceptibility profile of these isolates. During the period from November 2016 to April 2017, nosocomial *A. baumannii* species were isolated from clinical samples of patients admitted to four teaching hospitals in the state of Ceará, Brazil. The 197 clinical isolates of *A. baumannii* obtained during the routine diagnostic evaluation of patients with hospital infection were collected primarily from blood cultures (n = 61, 31%) and tracheal aspirate (n = 55, 28%); these sites harbored 59% of all the isolates. *A. baumannii* strains were less frequently isolated from wound secretions (n = 26, 13%), urine (n = 15, 8%), bronchoalveolar lavage (n = 9, 5%), catheter tip (n = 8, 4%) and other sites (n = 23, 11.6%). In relation to antimicrobial susceptibility, 99% (n = 196) of the isolates were resistant to cefuroxime, 98% (n = 194) were resistant to ampicillin and cefuroxime / axetil, and 93% (n = 184) to ceftazidime. Moreover, 76% (n = 156) of the isolates tested were resistant to imipenem and meropenem. On the other hand, 96% (n = 179) of *A. baumannii* strains analyzed were sensitive to colistin, and 89% (n = 175) were sensitive to tigecycline. Therefore, an increase in the incidence of health-associated infections by *A. baumannii* has been observed, and this pathogen has become resistant to almost all  $\beta$ -lactam antibiotics, including carbapenems. The results of this study suggest that tigecycline and colistin could be used as medicines of last choice for the treatment of infections caused by *A. baumannii*. The excessive use of antimicrobials has led to the emergence and spread of multiresistant pathogens in hospital environments and it is necessary to adopt effective measures to prevent nosocomial outbreaks.

**KEYWORDS:** *Acinetobacter baumannii*, health-associated infections, antimicrobials.