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Antimicrobials: Epidemiology of MDR-Gram-negatives

Surveillance of *Acinetobacter baumannii* isolates resistant to carbapenems during a 10-year period (2003-2012) in Aveiro, Portugal

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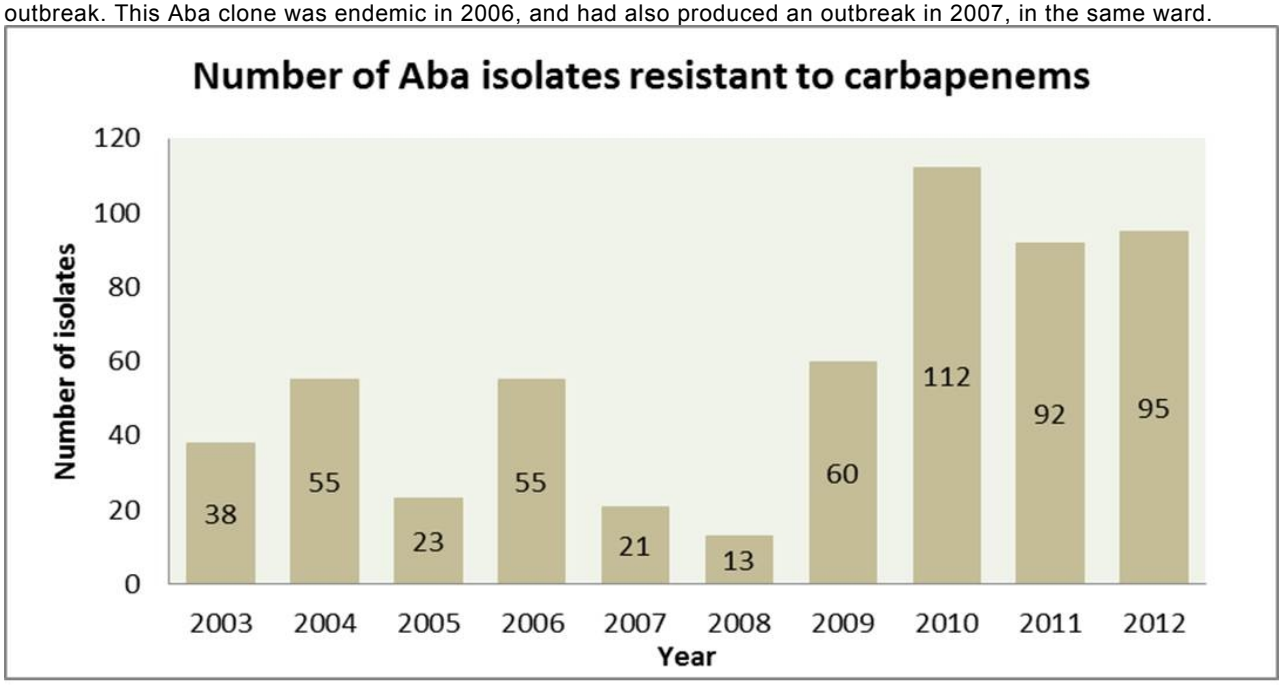
Objectives: *Acinetobacter baumannii* (Aba) is an important nosocomial pathogen worldwide and exhibits high rates of acquired resistance to many antimicrobial agents. It is also responsible for a high number of reported outbreaks worldwide. The aim of this work was to evaluate the temporal evolution of antimicrobial resistance among *Aba* isolated in a central region of Portugal (Centro Hospitalar Baixo Vouga – CHBV), Aveiro).

Methods: Consecutive non-duplicate bacterial pathogens were collected in the last 10 years from hospitalized patients in the CHBV. Sites of isolation included skin and soft tissues, bloodstream, urinary tract and lower respiratory tract. The isolates were identified by the automatic VITEK 2 system and Advanced Expert System (VITEK 2 AES) (BioMérieux, Marcy L´Étoile, France). The antimicrobial susceptibility profile to >20 antimicrobial agents was evaluated by CLSI broth microdilution methods and interpreted by CLSI M100-S20 (2010).

Results: 564 isolates of Aba resistant to carbapenems were collected during the 10 years period (2003-2012). As shown in graphic 1, the highest number of isolates was collected in 2009 (n=60), 2010 (n=112), 2011 (n=92) and 2012 (n=95). Most of the isolates were collected from lower respiratory tract followed by urinary tract and bloodstream infections. From November 2009 to February 2010, 36 Aba isolates were isolated from samples collected from patients hospitalized in the ICU, causing an outbreak. This Aba clone was endemic in 2006, and had also produced an outbreak in 2007, in the same ward.



Graphic 1: Number of Aba isolates resistant to carbapenems between 2003 and 2012

Conclusions: The number of *Acinetobacter baumannii* isolates has been increasing markedly in the last years, followed by an important reduction in the susceptibility rates to some broad-spectrum antimicrobials, like carbapenems. Long-term dissemination of a blaOXA-40 producer *A. baumannii* in the Iberian Peninsula has been reported by da Silva and co-workers, thus unsurprisingly it was detected in our hospital. However, this limits the therapeutic options available, thus becoming a cause for concern. Colistin remains the most active drug against Aba in the isolates collected in CHBV. Proper control of this multidrug-resistant Aba will require a multidisciplinary approach, including identification of resistance mechanisms, optimising antibiotic use based on local epidemiology and vigorous implementation of infection control measures.