DETECTION OF METALLO-β-LACTAMASES IN THE TEACHING HOSPITALS OF SANTA MARIA

Rigatti,F.[1], Domingues, V.O.[1], Bertoncheli, C. M.[1], Hörner,R.[1]

[1]Departamento de Análises Clínicas e Toxicológicas, Laboratório de Bacteriologia
Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brasil.

The metallo-β-lactamases (MβL) have recently emerged as one of the most feared resistance mechanisms because of their ability to hydrolyze all β-lactamic antibiotics except aztreonan.The aim of this study was to know the prevalence of isolates producing of MβL in the teaching hospital of Santa Maria. A total of 50 samples, 30 de *Acinetobacter baumannii* and 20 de *Pseudomonas aeruginosa,* had been analyzed using the disk diffusion test, where a paper disk filter was impregnated with one of inhibitors of MbL: 2-mercaptopropionic acid, solution of EDTA 100mM or solution of EDTA 500mM and placed to a distance of approximately 1,5cm of substrate disk: Ceftazidima (30 µg) and Imipenem (10 µg). A widening of the halo of inhibition of substrate disk was considered positive MbL. Of analyzed samples 6 (12%) they had been positive MbL and 44 (88%) had been negative MbL.The 44 negative MβL samples had been multiresistant having to possess another mechanism of resistance not investigated in this study. Although the small percentage of strains producing of MβL in our hospital is preoccupying, therefore the production of MβL restricts the treatment options and its mobile genetic elements can be transmitted for other sensible samples. Moreover, the production of other mechanisms of resistance also deserves attention due to restrict the therapeutical options.
Keywords: metallo-β-lactamases, *Acinetobacter baumannii, Pseudomonas aeruginosa.*