

Title: EVALUATION OF THE AGREEMENT BETWEEN TRADITIONAL CULTURE AND CHROMID®CARBA-BIOMERIEUX MEDIUM THROUGH THE DETECTION OF MDR IN SURVEILLANCE CULTURES, SALVADOR-BAHIA.

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Abstract:

The carbapenems are used one of the last option for the treatment of infections caused by Enterobacteriaceae, *Pseudomonas aeruginosa* and *Acinetobacter baumannii* multidrug resistant (MDR). During the last decades, strains capable of producing different types of β -lactamases, including carbapenemases capable of hydrolyzing carbapenems, have been increasingly reported and this fact has caused great concern in global public health. As a result, surveillance in hospitals for identification and control of these MDR microorganisms is extremely important to reduce the spread and thus reduce the morbidity and mortality of patients, besides to reduce hospital costs. This study aims to optimize the results of surveillance cultures, by comparing two methodologies. Were processed 126 swabs collected from rectal, oral and axillary regions in a hospital in the city of Salvador, Bahia, from October 2014 to January 2015. The swabs was inoculated in thioglycollate broth and incubated at 37°C for 18-24 hours. After this time, the broth was streaked on MacConkey agar through swab, using discs of imipenem, meropenem and ertapenem. In parallel, the same broth was seeded chromID®-CARBA (bioMérieux-France). The isolates that were resistant to carbapenems in the two methodologies used were confirmed by disk diffusion in Mueller-Hinton and the Hodge test. Our results showed a higher sensitivity and quickness with chromID®-CARBA, and the correlation between the two methodologies was 77%. The chromID®-CARBA presented false positivity in 19% (n=24) samples isolated from *P.aeruginosa*, *S.maltophilia* and *Candida* spp. Of the total positive samples, 3.9% (n=5) were positive in only one of the methodologies, account for 2 *E.cloacae* and 3 *K.pneumoniae*. We can conclude from this study that the chromID®-Carba showed better accuracy in the detection of MDR microorganisms and enable greater speed in the release of surveillance cultures and result in early detection of colonized patients and minimize the spread of MDR in services of health. We can conclude from this study that the chromID®-CARBA medium demonstrated best accuracy in the detection of MDR microorganisms, despite the false positivity presented, because it enabled faster in the release of surveillance cultures. In addition, the chromID®-CARBA may be useful in early detection of colonized patients, in reducing the spread of MDR in health services, the adequacy of the insulation measures and optimization of the average hospital stay.

Keywords: carbapenems, bacterial resistance, chromID®-CARBA, surveillance culture.