

4th International Conference on

Medical Microbiology

May 20-21, 2019 | Vienna, Austria

The potencial effect of probiotic bacteria against resistant-carpabenem *Acinetobacter baumannii*

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Infections caused by carbapenem resistance *Acinetobacter baumannii* (crab) are continually a focus of significant attention since the limitation of therapeutic options. Probiotic bacteria always have an essential role in dairy products and fermented food and promoted the positive health image as the treatment of microbial infections. Here, we evaluated the potential of antimicrobial agent produced by probiotics for the protection against crab infection. Tracheal aspirate specimen from 150 patients at Egyptian hospitals were recognized as Ab by PCR detection of blaOXA-51. Antimicrobial susceptibility was studied. Positive crab isolates with blaOXA-24 and blaOXA-58 incidence were undergoing for screening using probiotics that have been isolated from dairy products & food supplement. Probiotic have highest antagonistic activity was identified and its bioactive compounds were purified & characterized by

studying physiochemical characters. Nearly ninety-six of the cases were crab & 37.5% of cases harboring blaOXA-24 & only one case has blaOXA-58. *In vitro*, significantly 80% ($P < 0.05$) of crab remarkably inhibited by four probiotics. *Bifidobacterium bifidum* strain that showed the highest activity against crab has been identified, with significant inhibition levels reaching 83.33% in the case of the supernatant and even 97% inhibition of supernatant purified by column chromatography. Purified BbV1 was heat stable with amino acid content as identified by LC-MS/MS and belonged to bacteriocins-like compounds. Our finding demonstrated that natural BbV1 provides a protection against *Acinetobacter* infection *in vitro*. *In vivo*, further studies were applied using immunological and histological studies for application as nutritional and pharmaceutical use.

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