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Abstract

Flies as mechanical vectors for the spread of Gram-negative bacteria resistant to antibiotics

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Abstract:

The purpose of this work was to evaluate flies as mechanical vectors for the spread of Gram negative bacteria resistant to antibiotics. For this, homemade traps with various types of baits were placed to catch flies in different houses both in Cumaná and Carúpano, Sucre state, during the months of February to May 2015. The most attractive bait was fish entrails in both cities. The flies isolated in Cumaná were Chrysomya albiceps, Lucilia cuprina, Sarcophaga sp1 and Musca domestica. In Carúpano were isolated the same of Cumaná, but also Chrysomya rufifacies, Lucilia sericata, Calliphora vicina and Sarcophaga sp2. The Gram negative bacteria carried by the flies were Escherichia coli, Klebsiella pneumoniae, Proteus mirabilis and Pseudomonas aeruginosa. Some enterobacteria strains were resistant to betalactams by betalactamases production (BLEE, carbapenemases and AmpC), decrease susceptibility to fluoroquinolones and high level resistance to cloramphenicol. We did serino-carbapenemases detection by microbiologic methods, and we saw that Hodge modified test was negative for all strains tested. By antibiotipification we saw low clonality of strains of E. coli isolated from flies. In conclusion, mayority of enterobacteria strains have bacterial resistance mechanisms to all antibiotics of human use (betalactams, fenicols and quinolones), making it impossible to use in case of serious infections. P. aeruginosa strains have resistance to all antibiotics tested.

Biography:

Dr. Lorena Abadia-Patino studied Bioanalysis at the Orient University, Venezuela and graduated in 1997. In 1999, she got a Microbiology Master at Denis Diderot University and her work at Pasteur Institute under the direction of Patrice Courvalin. She got her Ph. D in 2003; returned to Venezuela and joined the research group of Biomedicine department at IIBCAUDO, created the Bacterial Resistance Laboratory. At present, she has the position of an Associated Professor at the UDO. She has published several papers, chapters and books. Associated editor of The Journal of Infection in Developing Countries.

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1. Silencing of Glycopeptide Resistance in Enterococcus faecalis BM4405 by Novobiocin
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