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Antimicrobial Resistance of Native Bacteria and The Spread of It out of Clinics

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ABSTRACT

Antimicrobial resistance of bacteria is one of the most dangerous problems of XXI century. It is caused by both high level of adaptivity of them to various factors of environment. This problem is extremely important for clinical strains of polyresistant, multi-drug or even pan-drug resistant pathogens. Anyhow, some native bacteria of soil, water and caves demonstrate a resistance to antibiotics of different classes and generations. Due to intraspecies gene horizontal transfer and quorum-sensing phenomenon, some genes of resistance can be spread in microbiome of a particular ecosystem, with the dramatic ecological and healthcare consequences. This research is devoted to the study of antimicrobial resistance genes and their spread mechanisms among the native soil strains of polyresistant *Pseudomonas, Xanthomonas* and *Stenotrophomonas* genera representatives and other Gram-negative phytopathogens and human opportunistic pathogens.

Keywords: *Xanthomonas*, *Pseudomonas*, *Stenotrophomonas***,** antimicrobial resistance, gene horizontal transfer, native soil strains

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