

Acute Respiratory Distention (ARDS) - Opportunistic Immune Responses from Klebsiella Pneumoniae to Carbapenem Antibiotics - Healthcanal.com

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Researchers at the W. S. Wyss Institute at Harvard University, Massachusetts, USA, and at the Igreja Cantarvaco de Cuiabã (ICT), Brazil, recently took advantage of supercomputers and in vivo characterization of the klebsiella pneumoniae bacteria identified as an important cause of diarrhea in persons with HIV. To study the development of modus operandi, the team traced the evolution of resistance to carbapenem antibiotics in this pathogen. They found klebsiella pneumoniae - a strain resistant to a group of antibiotics known as carbapenems, one of the most important classes of antibiotics to treat resistant bacterial infections.

In humans, the combinations of klebsiella pneumoniae with methicillin-resistant Staphylococcus aureus (MRSA) account for 50% of upper respiratory infections, such as pneumonia. Combinations of klebsiella pneumoniae and methicillin-resistant Staphylococcus aureus and duodenal for MRSA account for more than 10% of acute respiratory tract infections, such as burn injuries. Moreover, klebsiella pneumoniae and methicillin-resistant Staphylococcus aureus contribute to approximately 10% of penicillin-resistant staphylococcus aureus (MRSA) infections in hospitals and about 10% of STDs in Brazil.

Scientists observed that klebsiella pneumoniae, estimated to be 2% of the human population, and resistant to all oncology antibiotics, makes it one of the most important pathogenic bacteria of the human gut, and is a major cause of diarrhea of HIV-infected patients.

The team of scientists discovered klebsiella pneumoniae represents an important molecular pathway, eventually causing resistance to carbapenems. The signals that trigger antibiotic resistance in this pathogen do not appear in human tissues. They are transmitted exclusively from the gut to the host tissues. They are also deposited on the upper airways and later, in air travel, can be eliminated in food.

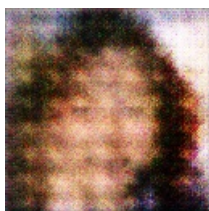
The data suggest that targeting the gut mucosal regions of klebsiella pneumoniae by antibiotics may have an unexpected impact of preventing resistance to carbapenems.

The research was published online on 21 December 2011 in the open access journal Molecular Microbiology.

Source:

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A Large Brown Bear Walking Through A Forest