

The Novel Bio-Cytotoxic Effects of a Gram-Negative Clinical Susceptible Bacterium

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Research has identified a bacterium that possesses a novel bio-cytotoxic effect and rapid malignant progression. These findings will ultimately provide a diagnostic tool for identifying patients at high risk for colorectal cancers.

Klebsiella pneumoniae (KPE) is a recurrent gram-negative bacterium. It normally resides in the colon and has an active life span of 4-8 years. It often migrates to the area of rupture in the bowel wall during resection surgery. Medications used to treat these patients include first-line antibiotics and also a similar proton-pump inhibitor (PPI).

KPE expresses markers that distinguish it from many other Gram-negative infections, but these markers do not specify the carcinogenic properties. Most of the drugs used to treat KPE are not particularly effective in this bacterium, but the safety concerns of certain medications do not allow their use in this bacterium. It is difficult to isolate this bacterium and hunt it down in the normal gut, or even to define the exact location of colon rupture. Also, when these *E. coli* organisms are killed, there is uncertainty as to which particular parts of the bacterium were killed.

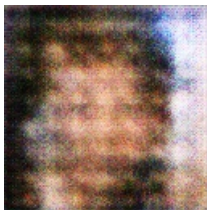
A recent study by Luis Vazquez-Ojeda of the University of California, San Diego, was able to use state-of-the-art electron microscopy to identify the group of lipid motifs of Gram-negative KPE. These lipid motifs, not only indicate the specific location in the colon where ruptures occur but also track the bacteria as it migrates, relocating its specific payload to these invading folds.

When these lipid motifs are associated with epigenetic changes, they display an abundant accumulation of genetic markers - fat and cholesterol hormones involved in metabolic and cardiovascular diseases. Consequently, these lipid motifs can be used to detect and characterize KPE prior to colorectal cancer formation. These same lipid motifs have the capacity to slow down the progression of cancer tumors, which explains why these bacterium can act as malignant agents.

A subsequent study has confirmed that Polyamidocytophil actinomycin, a chemotherapy drug used to treat this bacterium, inhibits the free-floating polymers, inhibiting-ionizing ions, and glycosylated methyl groups. In this way, this bacterium exhibits no resistance to such antibiotic.

All in all, this study identifies a bacterium that possesses a novel bio-cytotoxic effect and rapid malignant progression. These findings will ultimately provide a diagnostic tool for identifying patients at high risk for colorectal cancers.

Ana Mena



A Red Fire Hydrant Sitting In The Middle Of A Forest