

## عنوان مقاله:

The study of h. pylori derived protein and lps effects against ags cell line

## محل انتشار:

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## خلاصه مقاله:

Lipopolysaccharide (LPS) is a major component of the cell wall of the gram-negative bacteria known as endotoxin bacteria. Helicobacter pylori (HP) is a gram-negative, anaerobic and pathogenic bacteria in the digestive tract, especially the gastric mucosa. The purpose of this study was to investigate the effect of protein extraction and LPS of HP and E. coli (as control) on the gastric cell line (AGS). One strain of HP was isolated from gastric biopsy and identified by PCR method based on the Cag A gene structure. The protein extracted from bacteria was analyzed by SDS PAGE electrophoresis and their protein pattern compared with each other. AGS cells with 50000 cells per well were treated with 0.25, 0.59, 1.38, 2.9 and 4.76  $\mu\text{g} / \text{ml}$  of total bacterial protein. The results of the bioassays after 16 h incubation demonstrated that the cells treated with Helicobacter pylori protein did not have a significant apoptotic process compared to the control, while the cells treated with the Escherichia coli protein had a partial apoptotic trend compared to the control. On the other hand, morphological and biological changes of cells cultured in the same condition containing 500  $\mu\text{l}$  RPMI medium and treated with the 5, 6, 7, 8  $\mu\text{L}$  LPS extracted from the same population of both bacteria were investigated. The results showed that cells treated with LPS extracted from E. coli and H. pylori were deformed, often spherical, oval, with irregular membrane and most of them were detached from the plate's surface. The results of MTT and fluorescent dyeing with AO / EB showed that Helicobacter pylori protein treatment compared to E. coli not only have a cytotoxic effect on cells, but also exacerbated the relative control of the growth ratio, while the LPS endotoxin treatment of the HP bacterium was similar to the control of the effect of cytotoxicity and the effects of the event of apoptosis.

## کلمات کلیدی:

Stomach Cancer, Cell and Cancer, Cancer Risks, Multidisciplinary Cancer Research, Cancer Treatment and Management

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