

عنوان مقاله:

The evaluating expression profile of virulence factors in *Helicobacter pylori* strains by system biology; an example from Colombia

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خلاصه مقاله:

Abstract *Helicobacter pylori* is one of the most common bacteria in the stomach, colonizing about one-half of the population in the world, while most of them remain asymptomatic throughout their lives and gastric cancer (GC) occurs in only 1-2% of people. It seems that the final outcomes of *Helicobacter pylori* infection are dependent on bacterial virulence factors, host genetic characteristics, and the environmental conditions. In this study, we compared the expression of 20 known virulence factors associated with the development of GC in the isolated *Helicobacter pylori* strains from the Colombian patients belonging to the regions with low and high GC risks. Based on the results of the present study, it was found that the 20 studied virulence factors are closely related with each other and regulate their expressions through the required intermediates. We also showed that the *Helicobacter pylori* strains belonging to the region with high GC risk were more virulent and have developed into GC by destroying the intercellular bindings, cell skeletal dysregulation, and cell survival and proliferation stimulation, while the *H. pylori* strains in the region with low GC risk expressed virulence factors related to the chronic inflammation and apoptosis; adhesion factors were also different in both groups.

کلمات کلیدی:

Helicobacter pylori, Gastric cancer, Virulence factor, Colombia

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