

Helicobacter pylori virulence genes and host genetic polymorphisms as risk factors for peptic ulcer disease

Type: Review

Abstract:

Helicobacter pylori infection plays an important role in the pathogenesis of peptic ulcer disease (PUD). Several factors have been proposed as possible H. pylori virulence determinants; for example, bacterial adhesins and gastric inflammation factors are associated with an increased risk of PUD. However, differences in bacterial virulence factors alone cannot explain the opposite ends of the PUD disease spectrum, that is duodenal and gastric ulcers; presumably, both bacterial and host factors contribute to the differential response. Carriers of the high-producer alleles of the pro-inflammatory cytokines IL-1B, IL-6, IL-8, IL-10, and TNF- α who also carry low-producer allele of anti-inflammatory cytokines have severe gastric mucosal inflammation, whereas carriers of the alternative alleles have mild inflammation. Recent reports have suggested that the PSCA and CYP2C19 ultra-rapid metabolizer genotypes are also associated with PUD.

Author	a) Miftahussurur M., b) Yamaoka Y.
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