

Role of vacuolating cytotoxin A in *Helicobacter pylori* infection and its impact on gastric pathogenesis

ABSTRACT

causes, via the influence of several virulence factors, persistent infection of the stomach, which leads to severe complications. Vacuolating cytotoxin A (VacA) is observed in almost all clinical strains of *H. pylori*; however, only some strains produce the toxigenic and pathogenic VacA, which is influenced by the gene sequence variations. VacA exerts its action by causing cell vacuolation and apoptosis. We performed a PubMed search to review the latest literatures published in English language.

Areas covered

Articles regarding *H. pylori* VacA and its genotypes, architecture, internalization, and role in gastric infection and pathogenicity are reviewed. We included the search for recently published literature until January 2020.

Expert opinion

H. pylori

VacA plays a crucial role in severe gastric pathogenicity. In addition, VacA mediated *in vivo* bacterial survival leads to persistent infection and an enhanced bacterial evasion from the action of antibiotics and the innate host defense system, which leads to drug evasion. VacA as a co-stimulator for the CagA phosphorylation may exert a synergistic effect playing an important role in the CagA-mediated pathogenicity.