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.