

What is the Most Important Factor for Gastric Carcinogenesis in Koreans: Host Factor, *Helicobacter pylori*, or Environmental Factor?

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Epidemiological data including our studies demonstrated the association between *Helicobacter pylori* (*H. pylori*) infection and gastric cancer. However, this significant clinical outcome happens only in a small portion of infected person. This suggests that other contributors including host genetic and environmental factors might be involved in the disease process. Cytokine gene polymorphism such as interleukin-1 (IL-1) has been thought to play a role in gastric carcinogenesis. Our studies showed the controversial role of *IL-1*, *TNF-A*, *IL-10*, *IL-2* and *COX-2* gene polymorphisms in the development of gastric cancer in Korea. Chronic infection and inflammation leading to tumor genesis are mediated in part through the recognition of various stimuli by toll-like receptors (TLRs). Our studies on the polymorphisms of *TLR4* and *TLR2* showed no mutant form in Koreans.

These discrepancies might reflect the genetic differences between Caucasians and Koreans or might be due to prevalent genetic polymorphisms with masked effect in gastric carcinogenesis in Koreans. Studies on the association between virulent strains of *H. pylori* and clinical outcomes failed to show significant results in Korea. As other candidate risk factors, there are constant or inconsistent results on the effect of dietary intake in gastric cancer. There are numerous similar risks for gastric carcinogenesis with different risk ratio including environmental factors in Caucasians and Koreans. Under the background of prevalent *H. pylori* infection and genetic polymorphisms, environmental factors including diet may potentiate their role in gastric carcinogenesis in Koreans.