

## A further study of *Helicobacter pylori* reducing gastric blood flow

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A research group from Sweden investigated the mechanisms underlying the reduction in gastric blood flow induced by a luminal water extract of *Helicobacter pylori* (*H. pylori*). They found that the *H. pylori* water extract reduces gastric mucosal blood flow acutely through iNOS- and nerve-mediated pathways.

Gastric mucosal blood flow has a vital role in gastric mucosal protection. A high blood flow is considered a good protection against injury, as it dilutes, neutralizes, and removes hazardous substances that have penetrated the gastric mucosal barrier. A research group in Sweden has previously found that a water extract of *H. pylori* reduces the mucosal blood flow in rats by a mast cell- and platelet activating factor (PAF)-dependent pathway. In this study they further investigated the mechanisms behind the reduction in blood flow in mice. This will be published on January 14, 2009 in the *World Journal of Gastroenterology*.

In their study, the stomachs of isoflurane-anesthetized mice were exteriorized, and the mucosal surface exposed. Blood flow was measured with the laser-Doppler technique, and systemic arterial blood pressure monitored. C57BL/6 mice were exposed to water extract produced from *H. pylori* strain 88-23. To investigate the role of a nerve or iNOS-mediated pathway, they used intraluminal lidocaine and iNOS<sup>-/-</sup> mice. Blood flow response to the endogenous nitric oxide synthase inhibitor asymmetric dimethyl arginine (ADMA) was also assessed.

They found that in wild-type mice, the water extract of *H. pylori* decreased mucosal blood flow by approximately 30%. This reduction was abolished in iNOS-deficient mice, and by pre-treatment with lidocaine. Luminally applied ADMA resulted in reduction in blood flow similar to that observed in wild-type mice exposed to the water extract of *H. pylori*.

The results indicated that *H. pylori* water extract reduces gastric mucosal blood flow acutely through an iNOS- and nerve-mediated pathway. This will be very importance to understand the development of gastric inflammation.

Source: World Journal of Gastroenterology

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