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Alimentary Tract

Helicobacter pylori infection induces gastric cancer in Mongolian gerbils [†]

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Abstract

Background & Aims: Although epidemiological studies have indicated that *Helicobacter pylori* infection plays a crucial role in gastric carcinogenesis in humans, there is no direct proof that *H. pylori* is actually associated with gastric carcinogenesis. The purpose of this study was to elucidate the relationship between *H. pylori* infection and gastric carcinogenesis using an animal model of long-term *H. pylori* infection.

Methods: Mongolian gerbils were orally inoculated with *H. pylori*, and the sequential morphological changes in the stomach were examined for up to 62 weeks. **Results:** *H. pylori* was constantly detected in all infected animals throughout the study. At the 26th week, severe active chronic gastritis, ulcers, and intestinal metaplasia could be observed in infected animals. By the end of the study, adenocarcinoma had developed in the pyloric region of 37% of the infected animals. All tumors consisted of well-differentiated

intestinal-type epithelium, and their development seemed to be closely related to intestinal metaplasia. **Conclusions:** We have successfully demonstrated that long-term infection with *H. pylori* induces adenocarcinoma in Mongolian gerbils. The observations are thus highly suggestive of the involvement of *H. pylori* infection in gastric carcinogenesis in humans.

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Abbreviations

AB-HID , alcian blue with high-iron diamine

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