GUINEA PIG - A CONVENIENT MODEL TO STUDY THE PATHOGENESIS OF HELICOBACTER PYLORI INFECTIONS

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Stomach & H. Pylori

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Researchers developed and validated a guinea pig model of Helicobacter pylori infection using microbiological, histological, molecular, and serological methods to assess colonization and immune response.

KEY POINTS

- Guinea pigs were inoculated with H. pylori strain CCUG 17874 positive for VacA and CagA protein, with colonization assessed at 7 and 28 days post-inoculation.
- Multiple validation methods were employed including bacterial culture, histopathological examination with Mayer's haematoxylin and eosin, Giemsa, and Warthin-Starry silver staining to visualize Helicobacter-like organisms and assess inflammatory response.
- Molecular confirmation used PCR detection of ureC and cagA genes in gastric tissue, while immunological assessment included anti-Ki-67 staining for epithelial cell proliferation and serological detection of Hp antigens in feces and serum anti-Hp antibodies.
- The study demonstrated successful colonization based on microbiological, histological, molecular, and immunological determinants, supporting the conclusion that Cavia porcellus can serve as a model for studying H. pylori pathogenesis and immune response.

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