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Gastric bacterial flora in patients harbouring *Helicobacter pylori* with or without dyspepsia

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Background: The role of the gastric microflora in the production of symptoms in patients with *Helicobacter pylori* (*H. pylori*) infection has not been explored. We investigated qualitatively the bacterial flora in the stomachs of patients harbouring *H. pylori* infection, in order to determine differences, if any, related to presence or absence of dyspepsia.

Methods: Seventy-four gastric biopsy samples obtained at endoscopy from patients with (n=21) or without (n=53) dyspepsia, and that tested positive by the bedside rapid urease test for *H. pylori* infection, were studied for detection of *H. pylori* and non-*H. pylori* organisms. These organisms were identified by matrix-associated laser desorption ionization time-of-flight mass spectroscopy (MALDI-TOF MS).

Results: A total of 115 non-*H. pylori* isolates (34 from dyspeptic and 81 from non-dyspeptic patients) were

obtained from the 74 samples. These were identified by MALDI-TOF MS as *Staphylococcus spp*, *Streptococcus spp*, *Lactobacillus spp*, *Micrococcus spp*, *Enterococcus spp*, *Pseudomonas spp*, *Escherichia spp*, *Klebsiella spp* and *Bacillus spp*; nine isolates (eight in non-dyspeptics and one in dyspeptics) could not be identified from the Bruker Biotyper 2 database. *Staphylococcus* and *Lactobacillus* were more commonly identified in dyspeptics and *Streptococcus*, *Pseudomonas*, *Escherichia coli* and *Klebsiella pneumoniae* more commonly in non-dyspeptics.

Conclusions: The human stomach harbouring *Helicobacter pylori* is also host to a wide range of organisms. There is a difference in the spectrum between patients with and without dyspepsia. Their role in the production of symptoms in *H. pylori* infection needs to be studied, and especially whether this opens an avenue for therapeutic intervention.

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