Heliobacter pylori infection in healthy people

Str.—We have recently published the results of an epidemiological study in Gut reporting discrepancies between active Helicobacter pylori (Hp) infection determined by means of the 'C-urea breath test and the prevalence of anti-Hp antibodies in healthy volunteers. Further developments in serological tests make it necessary to report additional information and to reconsider our conclusions based on the serological data presented in the paper.

A systemic humoral immune response to Hp pylori has been searched for in many studies (including serological tests), some of which have become commercially available. They have all in common that whole bacterial cells were primarily used as antigens (acid glycin extracts or sonicated cells), especially Campylobacter jejuni.** False positive serological test results can therefore not be excluded. Thus serological tests using purified high molecular outer membrane proteins of H pylori and urease as antigens have been developed.** These second generation serological tests may be more specific for Hp pylori infection.

We have investigated the sensitivity and specificity of several different serological tests in a population of patients in whom the presence or absence of Hp pylori infection was unequivocally established. These patients all had upper gastrointestinal tract endoscopy with antral mucosal biopsies that were used for microbiological Hp pylori culture and a quick urea test (CLO test) and they all underwent a 'C-urea breath test. Sera were used only from patients in whom all three tests were positive (Hp pylori infection present) or all three tests were negative (infection absent). These latter patients were also questioned about treatment with antibiotics within the past six months and included in the present analysis only if the response was negative. Sera from this population were tested for anti-Hp antibodies with our own enzyme linked immunono- sorbent assay ELISA and two commercially available, first generation serological tests (anti-Hp IgG EIA Roche, Hoffman-La Roche, Basel, Switzerland and anti-Hp IgA, Bio Rad Laboratories, Glattbrugg, Switzerland) and a new second generation serological test that uses a well characterised, highly immunogenic, purified Hp-specific multicomponent antigens preparation free of cross reacting flagella proteins (anti-Hp IgA EIA Roche second generation, Hoffman-La Roche). Sera from 223 patients were tested; 64 patients had Hp pylori infection and 159 did not. The sensitivity and specificity of the four serological tests are shown in the Table.

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Medical treatment of bleeding peptic ulcer: old drugs, new regimens

Str.—Haemorrhage from peptic ulcer is due to the erosion of artery at the ulcer base by the continued digestive action of the proteolytic enzymes. Platelet plug and clot formation (both factors being pH sensitive) seal the bleeding artery. Dissolution of the clot is the most important factor for peptic ulcer bleeding. Intragastric acidity prolongs the duration of bleeding as the gastric juice contains fibrolytic substances1 and a pH <7 results in inhibition of platelet aggregation and dissolution of the clot. Understanding of all these changes as well as the acid*, pepsin or to inhibit fibrolysis should result in stabilisation of the clot and prevention of rebleeding. Yet to date the efficacy of none of the above mentioned drugs

Meyer et al. Rocchi 1st GAP Rocchi 2nd
Sensitivity 100 93 94 97
Specificity 80 85 85 (96)* 93
*If test results were included that reacted slightly or strongly (specificity within parentheses) positive.

Firstly, it is obvious that the three first generation tests react positively in 15–20% of people who have no active Hp pylori infection. If the same people are, however, tested with the second generation test, only 7% have anti-Hp without active infection. The cumulative percentage of patients reacting with either one of the three first generation tests amounted to 29%, resulting in a specificity of only 71%. These findings support the hypothesis that, while gastrin, aetiological factors in an important fraction of people, anti-Hp antibodies may be due to non-specific binding to the antigen in the test kit rather than to a specific response to Hp pylori infection in the past. While it is still possible that healthy people eventually eliminate Hp pylori spontaneously, this conclusion may not be drawn from our results based on the first generation serological test that was used. Similar caution, however, should be used in the interpretation of virtually all studies that reported Hp pylori prevalence data based on the first generation serological tests.** Epidemiological studies designed to gather information on the prevalence of Hp pylori should preferentially use direct proof of infection rather than serology.

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