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 Hp serological tests), some of which have become commercially available. They all in common that whole bacterial cells were primarily used as antigen (acid glycine extracts or sonicated bacteria, especially Campylobacter jejuni). False positive serological test results can therefore not be excluded. Thus serological tests using purified high molecular outer membrane proteins of Hp 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 for a quick urea test (CLO test) and they all underwent a C-urea breath test. Sera were used only from patients in whom either 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 patient population were tested for anti-Hp antibodies with our own enzyme linked immunonod 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 monoclonal antigen preparation free of cross reacting flagella proteins (anti-Hp IgE 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.

<table>
<thead>
<tr>
<th>Meyer et al</th>
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<th>Roch et al</th>
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<tr>
<td>Sensitivity</td>
<td>100 93 93 94 97</td>
<td>Specificity</td>
<td>80 85 85 85 (96)* 93</td>
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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 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 Hp pylori is an 'infectious' disease. One 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 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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Medical treatment of bleeding peptic ulcer: old drugs, new regimens

Str.—Haeamorrhage from peptic ulcer is due to the erosion of artery at the ulcer base by the corrosive action of gastric juice. 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 fibrinolytic substances and a pH <7 results in inhibition of platelet aggregation and dissolution of the clot. Under these conditions, attempt may be made to reduce the acid" or "pepsin" or to inhibit fibrinolysis should result in stabilisation of the clot and prevention of rebleeding. Yet to date the efficacy of none of the above mentioned drugs
has been unequivocally in the treatment of bleeding peptic ulcer.1

One of the important reasons given for lack of efficacy of conventional medical regimens in the control of bleeding from peptic ulcer is their inability to completely control intragastric acidity by failing to maintain sustained intragastric achlorhydria, which has been shown experimentally to be essential for stabilisation of clot.2 Peterson and Richardson3 have shown that sustained achlorhydria can be achieved only with hourly intravenous bolus injections of cimetidine (100 mg) with continuous nasogastric infusion of an antacid at the rate of 0.5 ml/min and not with conventional doses of H2 antagonists with or without antacids. In a preliminary prospective randomised study in patients with bleeding peptic ulcer using the above regimen we have recently shown that not only could achlorhydria be maintained but also a higher rate of control of bleeding than that obtained with the standard regimen could be achieved.4 Furthermore, using such a regimen for all subsequent patients with bleeding peptic ulcer we achieved an almost 100% control of bleeding in 75% of patients compared with 56-7% in the historical controls.5 We believe that there is increasing evidence that a relation exists between intragastric acid and peptic ulcer bleeding.6

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But was the procedure really necessary?

SIR,—Lee and Berhene report 46 patients rendered stone and fragment free with cholecystolithotripsy (Gut 1991; 32: 536–8). Seven patients developed recurrent calculi yet six remained asymptomatic. Of the 29 gall stone free patients, 26 were asymptomatic and six complained of persistent abdominal pain similar to that before treatment. Seven other patients rendered pain free still complained of various abdominal symptoms including bloating, cramps, indigestion, nausea, and dyspepsia.

After reading this article, I am suspicious that the symptoms suffered by many of these patients might be due to gall stones. The fact that some had apparently improved after cholecystolithotripsy does not establish that the procedure should have been done in the first place. Improvement could have been due to the powerful placebo response of the cholecystolithotripsy.

Before evaluating this study we need to know the indications for cholecystolithotripsy. Some of the patients had persistent abdominal pain similar to that before treatment. This raises the important question: Were the symptoms which permitted entry into this trial due to the gall stones? Persistent right upper quadrant abdominal pain commonly occurs in the absence of gall stones and may be due to a functional disorder of the upper gastrointestinal tract.1 Furthermore, several studies have clearly shown that the prevalence of dyspepsia is similar in those who have and do not have gall stones.2,3

It seems unlikely that cholecystitis (is there such a thing as chronic cholecystitis?) was an indication for lithotripsy since such patients are quite ill and usually require surgery fairly urgently. Their gall bladders would be unlikely to contract. We are not told that any of the patients were jaundiced or had pancreatitis, so the only remaining indication for removal of the gall stones would be biliary colic. It is possible, of course, that all the patients reported on had typical biliary colic, but this is not stated in the article.

Health ministries, third party payers, and increasingly the public are questioning the introduction of expensive new technology without proper validation. In this study cholecystolithotripsy seems to have taken place on some patients without indications for gall stone removal. Claims for the improvement of symptoms other than biliary colic are not substantiated by a double blind trial and go against experience.4 If, indeed, there were valid indications for lithotripsy in the patients reported, then the authors should have made these indications explicit in the article. If not, one wonders if the patients would have been better off with no treatment at all.

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Reply

SIR,—Dr Thompson wants to know the indications for cholecystolithotripsy and questions if the symptoms in our patients were indeed due to gall stones. Our multidisciplinary team agrees with Dr Thompson that right upper quadrant pain occurs in the absence of gall stones. This is further substantiated by the fact that up to 50% of patients have persistence of symptoms after cholecystectomy. We gave nine references in our discussion concerning this point. Our results of lithotripsy therefore compare favourably with cholecystectomy.

We are not aware of any institution using gall stone lithotripsy where the protocol does not require the presence of gall stone colic for entry to the study. We would like to assure Dr Thompson that in our institution in the lithotripsy clinic gastroenterologists and surgeons refer patients for treatment if the patient's pain is present and if these patients would otherwise have been considered for cholecystectomy. All 220 patients entered into our study were diagnosed as having gall stone pain. We therefore disagree with Dr Thompson and that cholecystolithotripsy has taken place in our institution without indication. Our team has decided that patients with so called 'gall bladder dyspepsia' should not be accepted for lithotripsy. One of our previous publications (reference 13 in our article) is more explicit in the acceptance protocol, stating that 'evidence of pain due to the presence of gallstones' is required.

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The modern medical curriculum lays increasing emphasis on 'communication skills.' When I first encountered this jargon, I thought it had something to do with computers, but was reassured to find that it simply means the ability to talk to people. Either as a consequence of this educational initiative, or of the 'holistic' philosophy behind it, medical students seem to be better at history taking. This should be good news for gastroenterology in which, more than in any other branch of internal medicine (if only because the physical signs of disease are so often vague or absent), the 'listen to the patient — he will tell you the diagnosis' holds true. But it isn't, because the modern science of gastroenterotology attracts the gadget minded and the would be surgeon and repels
Medical treatment of bleeding peptic ulcer: old drugs, new regimens.

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