

*Selected summaries*

## Serologic detection of CagA positive *Helicobacter pylori* strains predicts the presence of peptic ulcer in young dyspeptic patients

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Endoscopy is the investigation of choice in dyspepsia. Direct access endoscopy can reduce the time between presentation and diagnosis. It saves on unnecessary outpatient consultation and can reduce inappropriate prescribing, but it results in an increased workload. Thus, some method of screening out subjects who are at low risk of clinically important pathology is desirable.

The aim of the study was to examine in a prospective study the relation between serologic detection of cytotoxic associated gene (CagA) *H pylori* strains and endoscopic findings in young dyspeptics to screen patients at high risk of duodenal ulcer

One hundred consecutive patients with dyspepsia younger than 45 years old with peptic ulcer or no lesions at upper GI endoscopy were enlisted in the study. Biopsy specimens were obtained from antrum during endoscopy for rapid urease testing and histologic examination. A four-grade scale was used to evaluate gastritis (0: absence of any inflammatory infiltration, 1:mild inflammation, mainly associated with sparse mononuclear cells detected throughout the lamina propria, 2:in moderate degree findings of grade one, and 3: severe infiltration of the glandular lumen, associated with diffuse and severe mononuclear cell infiltrate). After endoscopy blood was obtained for serologic detection of CagA status by means of a commercial immunoblotting assay against *H Pylori* antigens.

Among the 100 dyspeptic patients, 56 were *H Pylori*

positive and 44 were *H Pylori* negative. In the group of *H Pylori* positive patients, 36 (64,3%) had peptic ulcers (all of them had duodenal ulcers) but 20 (35,7%) had not, whereas 34 of 36 (94,4%) were CagA positive and 2 of 36 (5,6%) were CagA negative. The respective values of the group of patients without lesions were 9 of 20 (45%) and 11 of 20 (55%).

So, the authors conclude that among young dyspeptic patients, CagA seropositivity is highly associated with duodenal ulcer at endoscopy and they imply that serologic detection could be used as screening test before endoscopy

### COMMENT

*Helicobacter pylori* colonization in the stomach is associated with increased risk of development of peptic ulcer disease and non- cardia gastric adenocarcinoma (J Infect Dis 1999;179:1523-30). However, the incidences of these diseases vary in different parts of the world, and these rates have been changing over the past century. It is clear nowadays that the mere presence of *Helicobacter pylori* is insufficient to account for this variation. Alternative hypotheses to explain differing outcomes include variation in bacterial strains, in host related factors, or in the particular interactions governing the long term equilibrium between *Helicobacter pylori* strain populations and the colonized host (Proc Natl Acad Sci USA 1999; 96:8359-64). Attempts to identify virulent strains of *Helicobacter pylori*, which are more likely to result in clinically important outcomes, have focused on two groups of potential bacterial virulence factors, the cag pathogenicity island (for which CagA is a marker) and the vacuolating cytotoxin, VacA. The CagA gene is located in the most downstream portion of the the cag pathogenicity island, a 40 Kb DNA region, containing open reading frames that code for a putative *H pylori* secretion system (Proc Natl Acad Sci 1996;93:14648-53). The CagA gene is present in about 60-70% of *H pylori* strains and encodes a high molecular weight protein (120-140 kD) (Infect Immun 1993; 61:1799-809). In this issue Rokkas et al investigated whether *Helicobacter pylori* strain differences are related to duodenal ulcer occurrence in Greek, dyspeptic patients, younger than 45 years old, undergoing endoscopy, whereas the authors suggest

that *Helicobacter pylori* CagA seropositivity is strongly associated with findings of duodenal ulcer.

Contemporary concepts of management of peptic ulcer disease have radically changed, *Helicobacter pylori* eradication being the mainstay of therapy (NIH Consensus Statement 1994; 12:14-5, Gut 1997;41:8-13). Endoscopy is needed to diagnose and appropriately manage peptic ulcer disease. The extent to which dyspepsia should be investigated is controversial, especially in younger patients (Lancet 1987;2:779-82, Lancet 1988;2:1349-51). Only a few patients have peptic ulcer disease and even fewer have cancer; nonetheless, in most centers demand for endoscopy exceeds the resources available. The fact that eradication of *Helicobacter pylori* may lead to longstanding remission of duodenal ulcer disease strengthens the case of accurate endoscopic diagnosis of dyspepsia. Limited endoscopy resources must therefore be allocated effectively. Various screening policies for endoscopy have been proposed-*ie*, use of simple age restrictions (Br Med J 1990; 301:515-15), strategies that attempt to identify patients at high risk of ulcer and cancer on the basis of their symptoms (Gut 1995;36:330-33).

Recently several studies have shown that younger dyspeptic patients with negative serology for *Helicobacter pylori* infection are extremely unlikely to have peptic ulcer disease unless there is a history of exposure to ulcerogenic non-steroidal anti-inflammatory drugs (NSAIDs) (Lancet 1995; 346:1315-18). In the study above, the option of consuming NSAIDs did not occur. No cancers were reported in those less than 45 years old in these studies but some included data on older dyspeptic patients in whom cases of adenocarcinoma were also detected by positive *Helicobacter pylori* serology (Lancet 1994; 344:511-12). In this issue the authors selected a cut-off of 45 years, below which gastric cancer is rare and virtually always presents with established alarm symptoms. On the basis of evidence from these studies, a policy of restricting endoscopy in younger patients to those with positive serology for *Helicobacter pylori*, unless there are alarm symptoms or a history of NSAID use, has been advocated recently in the UK (London:BCG;1996).

A systemic antibody response to CagA is almost invariable in patients infected with CagA positive strains (J Clin Microb 1995; 33:1496-500). Several studies have shown that, whereas more than 80% of peptic ulcer patients harbor CagA + strains, the prevalence is only around 60% in non-ulcer subjects, coming into agreement with the study above. Serologic screening of younger dyspeptics by serology for *H. Pylori* enables iden-

tification of those patients who are at risk of having serious gastroduodenal lesions. It was previously shown that a policy of restricting endoscopy to patients with serologic evidence of CagA+ *H Pylori* infection by Western blotting would have improved the results obtained with an optimized *H. Pylori* ELISA (Scand J Gastroenterol 1999;9:856-63). So, Rokkas et al proposed that dyspeptic individuals infected with *H. Pylori* could be further screened on the basis of serum recognition of CagA, using an immunoblotting assay, thereby identifying those at highest risk of serious lesions requiring prompt endoscopy.

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## Regression of Barrett's esophagus with heat probe thermocoagulation: mid term results

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The aim of this study was to assess whether ablation of Barrett's mucosa with heat probe combined with acid suppression therapy could regenerate the normal esophageal squamous epithelium and what was the outcome after the ablation of Barrett's esophagus (BE).

Thirteen patients (8 men and 5 women [mean age 54.6 years]), with BE (endoscopically and histologically confirmed and without dysplasia), were enrolled in the study. At the beginning endoscopy was performed in order to assess the presence, length, place and histology of BE and the presence of *Helicobacter pylori*, which whenever was found it was eradicated. Then, BE was ablated with heat probe (pulses of 5 to 10 joules, mean number of sessions until complete ablation  $2.77 \pm 1.69$ ), together with continuous use of omeprazole, 40 mg/day. Four - quadrant biopsies were taken from 1 to 2 cm intervals, 1 to 3 months after the last heat probe session to assess results.

Ablation of Barrett's esophagus was achieved mac-