Abstract

The tools to implement gastric cancer prevention are available

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Given the impact of gastric cancer on mortality and the role of *Helicobacter pylori* infection in its development, the question of the eradication of *H. pylori* to prevent gastric cancer development has become a topic of controversy.

In addition to gastric cancer, *H. pylori* eradication carried out on a large scale should also decrease the burden of other diseases due to this infection such as peptic ulcer disease, a fraction of non-ulcer dyspepsia, certain autoimmune diseases and possibly cardiovascular diseases.

To carry out such a prevention strategy, we need to be able to diagnose *H. pylori* accurately and simply, and to employ a treatment regimen which is effective and has limited adverse events.

Numerous diagnostic tests are available, but only non-invasive tests can be considered in this strategy. Among the urea breath test, stool antigen test, and antibody tests (in serum, urine, saliva), serology performed with a laboratory test seems the most adapted to this situation because of its limited cost, easy performance, and satisfactory
accuracy (95%) for selected kits. In areas of low prevalence, immunoblot can also complement ELISA serology to improve the positive predictive value.

An antibiotic treatment can then be used to eradicate *H. pylori*. This is a unique opportunity in cancer prevention. Unfortunately, current regimens are not easy to comply to but provide a 70% cure rate with a one-week duration. The triple therapy IPP-clarithromycin-metronidazole could be used in areas where the prevalence of *H. pylori* resistance is lower than 15% to clarithromycin and 40% to metronidazole according to Maastricht 3-2005 guidelines. A follow-up of *H. pylori* eradication should be carried out after 6 weeks and a second treatment administered if positive. This approach is not ideal for mass treatment because of its cost. Furthermore, it would increase the selective pressure for resistant *H. pylori* but also for other bacterial species which is a major problem, in addition to all of the other ethics problems related to prevention programmes.

Nevertheless, when compared to prevention of colon cancer, this strategy has several positive points: an easy and accurate way to diagnose the infection in patients, an effective and short term treatment – however, markers for the “point of no return” need to be found.

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**Curriculum Vitae**

Francis Mégraud, M.D.

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**Personal**

- Age: 56
- Date of birth: November 26, 1949
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**Marital status**

- Married, 2 children

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Education
Diploma of Pharmacy, University of Bordeaux II 1972
Doctor of Medicine, University of Bordeaux II 1980

Post graduate training
Internship, Centre Hospitalier de Bordeaux 1977
Certificate of Bacteriology, University of Bordeaux II 1978
Diploma of Immunology, Pasteur Institute, Paris 1981
Training in cell biology research
Institute for Medical Research, Camden, New Jersey 1981
Epidemiology Intelligence Service Course
Center for Disease Control, Atlanta, Georgia 1984
Training in Campylobacter research
Laboratory Centre for Disease Control, Ottawa, Canada August 1985
Diploma for Study and Research in Human Biology
University René Descartes, Paris 1985
Diploma for Authorization to oversee research projects
University of Bordeaux II 1986

Academic appointments
Assistant professor of Bacteriology, University of Bordeaux II Oct. 1978 - Oct. 1982
Associate professor of Bacteriology, University of Bordeaux II Oct. 1982 - July 1990
Professor of Bacteriology, University of Bordeaux II July 1990 - present

Hospital appointments
Assistant in bacteriology 1978
Bacteriologist-in-Charge
Head, Pediatric Bacteriology Unit, Hôpital Pellegrin, Bordeaux 1992 - present

Professional organizations
Member of :
"Association des Anciens Elèves de l'Institut Pasteur" 1978 - present
"Société Française de Microbiologie" 1978 - present
"Société de Pathologie Infectieuse de Langue Française" 1978 - present
American Society for Microbiology 1981 - present
European Society of Clinical Microbiology and Infectious Diseases 1985 - present
"Association des Epidémiologistes de Terrain" 1987 - present
American Gastroenterological Association 2000 - present
"Société Nationale Française de Gastroentérologie" 2000 - present
Elected member of the European Gastro Club 1994 - 2001
Corresponding Fellow of the Infectious Diseases Society of America 1994 - present

Committee membership
International Committee for serotyping of Campylobacter 1985 - 1993
Founding member and secretary of the European Helicobacter pylori Study Group 1987 - present
Subcommittee for the taxonomy of Campylobacter and related bacteria 1990 - present

Grants
Grants have been obtained for Campylobacter research from the European Community Commission, the World Health Organization, and the French Ministries of Foreign Affairs, Research, and Health, and for Helicobacter (Biomed programme of EU).

Current activities
Head of the French National Reference Center for Campylobacter and Helicobacter since 1993
Lecturer on Helicobacter pylori in most of the European countries and abroad
Author of several chapters in the different books published on Helicobacter pylori
Secretary of the International Working Party formed by the European Helicobacter pylori Study Group to produce Guidelines for clinical trials aiming at the eradication of Helicobacter pylori

Editor of
Editor of Clinical Microbiology and Infection (2004-)
Member of the editorial board of the journals: Lancet Infectious Diseases (2001–2003), European Journal of Gastroenterology & Hepatology, Clinical Microbiology and Infection, Chinese Journal of Gastroenterology, Minerva Gastroenterologica e Diabetologica (Italy), Gastroenterologia Polska (Poland)