Ethical issues in the management of Helicobacter pylori infection

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Medical ethics are not absolute; they change according to social attitudes, technological advances and alterations in the doctor/patient relationship. The discovery of Helicobacter pylori highlighted entrenched attitudes in academia and the pharmaceutical industry that were not always appropriate. The explosion of research that followed was ethically controlled by local research ethics committees and the system of peer review and editorial responsibility. Now that effective treatments are available, the control arm in trials of new therapy should be either placebo (giving the option of effective treatment later) or a first-line treatment; mono and dual therapy should not be employed because of the risk of inducing bacterial resistance. Ethical issues that still remain include whether always to test patients for H pylori at endoscopy and what information should be given when they test positive. The most important issue is the approach of the medical profession to the high death rate carried by H pylori infection. Peptic ulcer and gastric cancer together account for a large number of deaths worldwide, and the medical profession and public health services have not yet grappled with this problem, neither advocating universal testing and treatment nor funding or research to determine whether this approach would be effective.

Key Words: Ethics; Gastric cancer; Helicobacter pylori; Peptic ulcer; Research

Medical ethics have changed enormously in recent years and continue to evolve. It is a common misconception that ethics are absolute and that it is a simple matter to distinguish what is right from what is wrong. In reality, many ethical issues are not black and white, but are a series of shades of grey. Prenatal screening, abortion, fertility treatment, choice of fetal sex, stem cell technology and cloning are all areas in which people, quite reasonably, may adopt a different stance according to their own beliefs, those of the community involved and those of the individual case being considered. Issues and beliefs have altered, not only because of social changes, but also as a result of advances in technology.

Neonatology is a particularly good example, but similar considerations relate to gastroenterology. The development of new drugs and the introduction of new endoscopic techniques (such as percutaneous endoscopic gastrostomy) into clinical practice, the advocacy of endoscopic screening for malignant gastrointestinal disease, the use of treatments that prolong the process of dying and the availability of drugs that the community is unable to afford all raise ethical issues that gastroenterologists have to address.

It is not just technological advances that have led to ethical changes, the role of the physician has altered, particularly in the developed world where paternalism has been replaced by patient empowerment, professional freedom by the development of clinical guidelines and individual responsibility by the development of multidisciplinary teams. There has also been a decline in professional confidence as a result of widespread litigation. Conversely, patient expectations have increased because medical care is now more effective and, therefore, more desirable. The rise in the standard of living and the provision of insurance or state coverage for medical care have led to greater demands. Patients are more knowledgeable, there is more desirable. The rise in the standard of living and the provision of insurance or state coverage for medical care have led to greater demands. Patients are more knowledgeable, there is
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When discussing with patients the advantages and disadvantages of therapy, doctors should focus not on the responsibilities that they have to the general population, but on the specific needs of the patient. Will the patient worry about the risk of cancer and go away to read about it on the Internet? Is the patient an elderly person who has lived with his or her Helicobacter species infection for many years and whose symptoms are unlikely to be related to it? Is the patient the 'one in 10' who may be cured of their nonulcer dyspepsia as a result of _Helicobacter_ species eradication or is he or she a patient who, given treatment, will have side effects that may cause him or her to complain about the therapy for many years after? Decision-making under these circumstances is clinical rather than ethical. The ethical responsibility, however, is for the doctor to discuss the issues clearly and objectively, pointing out the advantages and disadvantages and ending with personal advice along the lines that he or she feels is most appropriate for the individual patient in question.

**DEATH FROM _H pylori_**

An important ongoing issue is whether _H pylori_ infection is responsible for gastric cancer and, if so, what should be done about it. Scientific data provide strong circumstantial evidence that infection with _H pylori_ is the main factor responsible for the development of gastric cancer, which is the second most common cause of death from malignancy in the world. Infection with the organism probably increases the risk by a factor of six. No prospective studies of treatment versus non-treatment for the prevention of cancer have been undertaken, so proof of cause and effect is lacking. Nevertheless, apart from the epidemiological data, _Helicobacter_ species infection has been shown to cause cancer in an animal model, and there is a wealth of data showing how the infection, in association with...
other factors, provides a credible pathogenetic mechanism for carcinogenesis. It is difficult, therefore, to understand why the medical establishment is so reluctant to support the concept of a test-and-treat policy in the general population. The arguments against this include the overuse of antibiotics, the fact that no study has shown that eradication of the infection prevents cancer, that infection with the organism may have some, as yet, undetermined benefit to mankind, that treatment may be expensive and that it may give rise to adverse events. Against these arguments, it may be said that the use of antibiotics would be small in relation to those used already (in the United Kingdom more than one course of antibiotic therapy for each man, woman and child every year). Society has introduced screening for cervical cancer, breast cancer and now colonic cancer without prospective evidence that these interventions are effective. There is no convincing evidence that H pylori infection does anything but harm to the human race and treatment is remarkably free from significant side effects compared with, for example, cone biopsy and colonoscopy.

The burden of disease from H pylori infection is perhaps best expressed by comparing Helicobacter species infection with other infectious diseases. Figure 1 shows mortality rates in England and Wales for a variety of infections during 2001. These data, were obtained from the Office for National Statistics (2), show that roughly twice as many people died from peptic ulcer and gastric cancer than from all the diseases designated as infectious combined. While accepting that not all peptic ulcers and gastric cancers are caused by Helicobacter species, a conservative estimate suggests that this infection is by far the most serious cause of death compared with other infections in most developed countries. The argument put forward that Helicobacter species infection is declining and will not remain a problem in the future is wildly optimistic, particularly when considering the infection rate in the developing world and the potential impact that it will have on their populations as the standard of living increases and populations live long enough to reach an age where complications of H pylori infection become more serious. The cost of introducing a test-and-treat policy in a developed country is relatively small and it is possible that it would pay for itself within a decade (3).

H PYLORI MANAGEMENT: AN ETHICAL, SCIENTIFIC, POLITICAL OR ECONOMIC ISSUE?
It is difficult to disentangle the morality of medical decision making from science and economics. Doctors have an ethical duty to ensure that the money provided for health care is spent appropriately. Priorities will vary from country to country. At present, the problem of Helicobacter species infection in the developing world, though serious, does not compare, for example, with that of human immunodeficiency virus infection in Africa, with malaria worldwide or with enteric diseases associated with polluted water supplies. Nevertheless, in eastern Europe and the far East, where gastric cancer is rampant, public health intervention could make a significant impact, and taking peptic ulcer into consideration would be worthwhile in western Europe. At present, little money or enthusiasm is forthcoming for research into the epidemiology of this serious infection or for investigation of public health measures to control it. Doctors, and, in particular, gastroenterologists, do not seem to be prepared to take a lead in this area, and there is not sufficient funding available for research to explore the effect of a test-and-treat policy. Perhaps it is time that the medical profession took a higher profile in advising where health care money should be spent, rather than leaving it to government and the biomedical industry, both of whom have agendas that are not wholly altruistic.

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