

of information is made available from the various agencies and other experts to fuel public debate.¹⁰

Yet in both the United States and Britain, though the incidence of death and ill health from low level radioactive waste seems very small, "for the public, perceptions frequently have greater reality than the epidemiologists' risk assessments and statistical models."¹¹ The National Radiological Protection Board is on record as saying, "we have to reconcile two objectives, one of protecting against radiation and the other of protecting against fear" and "The crisis is not one of health but of social and political confidence" (National Radiological Protection Board, corporate plan 1989/90 to 1993/94, 1989). The agencies continue to hope that their presentation of factual information will remove some of the novelty from radiation and so alter false perceptions. The most contentious issue, however, is the possible hazard from human factors, which in the past have led to the failure of technical systems thought to be safe. Any continuing public debate must include the place of human error and interference, including industrial development of other actions. This may be the most difficult and painful issue in the making of a policy.

MARIANNE A PITMAN

Consultant in Public Health Medicine

ADRIAN SARGOOD

Scientific Equipment Assessment Specialist

South Western Regional Health Authority,
Bristol BS2 8EF

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Dyspepsia in general practice

Try empirical treatment first and investigate patients who do not respond

Dyspepsia, an ill defined collection of upper abdominal symptoms,^{1,2} affects 25% to 30% of the community and accounts for 3% to 4% of general practitioner consultations.³ Despite a substantial decline in the prevalence of peptic ulceration over the past 20 years the incidence of dyspepsia has remained constant.³ It continues to pose a diagnostic and therapeutic challenge to the clinician: faced with limited resources but increased public expectations of health care he or she has to decide who to investigate.

Lord Moynihan's optimistic prediction that in most patients with dyspepsia a diagnosis could be made from the history alone has not withstood the test of time.⁴ Even experienced clinicians achieve a diagnostic accuracy of only 45% to 50%. This accuracy may be increased to 70% to 80% by using a predefined, structured questionnaire, but such an approach is unlikely to be adopted by many busy general

practitioners.⁵ One solution is to refer all dyspeptic patients for investigation before starting treatment. Upper gastrointestinal endoscopy has a high diagnostic accuracy for peptic ulcer and cancer (over 90%), a low complication rate (less than 1%), and is available in most British hospitals. During the past 10 years the rate of referral of dyspeptic patients for upper gastrointestinal endoscopy has shown a dramatic rise.⁶ Unfortunately, in most hospitals this growth in demand for the service has outstripped the resources available, and the result has been the creation of waiting lists or at best saturation of existing clinics. The system does not have the capacity to absorb more work so the answer must be a re-evaluation of the selection of patients with dyspepsia for investigation.

The first point to make in such an evaluation is that while an accurate diagnosis of the cause of dyspepsia may be academically desirable it is not essential for managing most patients. Many will respond well to a short course of treatment with antacids or H₂ receptor antagonists; those suspected of having serious disease may still be referred for early investigation. Several studies have examined the discriminant value of various dyspeptic symptoms and have attempted to provide scoring systems for identifying the "high risk" patients for early referral.^{1,5,7-9} None of these systems is ideal, being either too cumbersome for routine use or lacking in sensitivity.⁷ Some symptoms—such as severe or persistent pain, vomiting, anorexia, and loss of weight—clearly load the dice in favour of a diagnosis of peptic ulcer or cancer. Age is important when screening patients with dyspepsia for cancer. Below the age of 45 the incidence of oesophageal and gastric cancer is very low, and there is no justification for the use of endoscopy in these patients merely to detect early cancer.^{6,10} Only 1% of all dyspeptic patients will be found to have oesophageal or gastric cancer, and in only six per 10 000 patients will "early" gastric cancer be detected at endoscopy.¹⁰

Most dyspeptic patients can be treated for four to six weeks with antacids before any investigation needs to be performed. Those who respond to such treatment may be reassured, while those who fail to improve should be referred for investigation. Is there any evidence that such a delay could harm patients with peptic ulcer or upper gastrointestinal cancer? Many controlled trials of treatment with placebo or antacid have shown that patients in both groups rarely develop serious complications over four to six weeks of observation.¹¹ Nor is there any evidence that a four to six week delay in diagnosis will adversely affect the natural course of or surgical cure rate for oesophageal or gastric cancer.¹⁰ Furthermore, if all dyspeptic patients were referred for endoscopy and no additional resources were made available then waiting lists of over four weeks would become increasingly common, defeating the whole object of early investigation.

Are there any patients who should be investigated as soon as possible? Patients with symptoms very suggestive of cancer—such as dysphagia, anorexia, and loss of weight—clearly require urgent diagnosis. Those patients with ulcers who have evidence of recent substantial gastrointestinal haemorrhage should be referred early. Finally, patients who are taking non-steroidal anti-inflammatory drugs should be considered for early endoscopy; these patients are often elderly and if they develop complications have increased overall and surgical mortality.¹²

Over half of all dyspeptic patients respond well to an empirical trial of treatment coupled with reassurance, allowing those at higher risk to be defined and so given ready access to early investigation. Acceptance of such a referral code may also lead to general practitioners being given more

open access to endoscopy. This could lead to more satisfied patients, more efficient use of limited endoscopy resources, and happier general practitioners.

C BROWN
Registrar
W D W REES
Consultant

Department of Gastroenterology,
University of Manchester School of Medicine,
Hope Hospital,
Salford M6 8HD

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Lead poisoning: an age old problem

Many more workers may be at risk than those currently monitored

Lead is ubiquitous in the environment as a result of its natural occurrence and industrial use.¹ A healthy adult will have an average daily intake of about 100 µg,² most of it from food and water, though inhalation of lead from polluted environments may also be important. About 10-30% of inhaled lead and 10-15% of ingested lead is absorbed,³ and the balance of absorption and excretion normally maintains blood lead concentrations below 1.0 µmol/l. People occupationally exposed to lead may, however, rapidly accumulate toxic concentrations. In Britain there are about 25 000 registered lead workers under medical surveillance, but two recent outbreaks of lead poisoning—one in Britain⁴ and the other in the United States⁵—suggest that many more may be at risk. In both cases those affected were demolition workers who used oxyacetylene torches to cut through metal covered in lead based paints, and the outbreaks came to light only when workers sought medical advice because of their symptoms.

Though the toxic effects of inorganic lead have been known since ancient times⁶—the classic clinical features were reported by physicians in the eighteenth and nineteenth centuries, most notably by Tanquerel des Planches in his treatise of

1839⁷—modern clinical experience in developed countries is limited because industrial legislation has restricted occupational exposure. In addition, lead poisoning is often not recognised because of its non-specific symptoms. The typical abdominal pain may not be colicky, and features such as fatigue, arthralgia, myalgia, headache, irritability, and depression are common.⁸ Furthermore, up to a third of patients volunteer no complaints at examination.^{9,10} Thus a careful history of the patient's work and home environment may save the patient and clinician a series of unsuccessful diagnostic tests. In the outbreak among British demolition workers reported by Pagliuca *et al*⁴ classic basophilic stippling seen on the peripheral blood film¹¹ raised the suspicion of lead poisoning, which was easily confirmed by checking blood lead and erythrocyte zinc protoporphyrin concentrations. Treatment with chelating agents such as sodium calciumedetate, dimercaprol, penicillamine, and the relatively new water soluble agents dimercaptosuccinic acid and dimercaptopropane sulphonate¹² is gratifyingly effective, but prevention is still better than cure.

In Britain exposure to lead at work is strictly controlled by the Health and Safety Executive,¹³ and those working in processes that create lead dust (powder mixing, sanding, grinding, and scraping) or fumes (burning, refining, pouring, smelting) are kept under medical surveillance. Few cases of lead poisoning are notified outside the surveillance scheme.¹⁴ In the United States an estimated 827 650 workers have potential occupational exposure to lead,¹⁵ and extrapolating these figures to Britain suggests that many more British workers may be at risk than are currently monitored. With the demolition and reconstruction industries now thriving in many inner city revitalisation programmes we may see an increase in the number of cases of occupational lead poisoning. World wide it remains the most common occupational poisoning and we should remain ever vigilant.

ANTONIO PAGLIUCA
Sir John Dacie Research Fellow

GHULAM J MUFTI
Senior Lecturer

Department of Haematological Medicine,
King's College School of Medicine and Dentistry,
London SE5 8RX

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