

Jaundice may be seen after major surgery requiring transfusion in patients with hepatic impairment, but anaesthesia is not usually the cause.⁵ Since alcoholics are more prone to cerebral damage from hypoxia the patient at risk of convulsions should be ventilated electively during surgery.

Regional analgesia may be possible, but the patient may not cooperate, and it is prudent to document pre-existing peripheral neuropathy. Severe hypotension may result from dehydration, cardiomyopathy, or autonomic neuropathy.

The alcohol withdrawal syndrome usually becomes apparent in the postoperative phase. Management of the patient may be impossible unless drinking is permitted, alcohol infusion is continued, or drugs are given to allay symptoms and prevent progression to serious features. The latter is the usual method adopted. Intravenous or oral chlormethiazole, diazepam, or chlordiasepoxide are all effective, and there is no evidence that carbamazepine or paraldehyde is superior.⁶⁻¹⁰ The aim is to produce sedation without depression of protective reflexes. Since tissue hypoxaemia is a feature of withdrawal oxygen or nitrous oxide-oxygen mixtures have been recommended, and the

proponents claim impressive results.¹¹ Hypokalaemia and hypoglycaemia must be corrected. The former nearly always precedes convulsions, which may respond to intravenous propranolol if conventional treatment fails.⁶ Administration of magnesium and haemodialysis have also proved beneficial during withdrawal.

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Regular Review

Open access endoscopy

ROGER JONES

Most general practitioners have free access to barium meal examinations for their patients, as they do for many other laboratory and hospital examinations.¹ Several studies have suggested that upper gastrointestinal endoscopy has advantages over radiology in investigating patients with "dyspepsia."^{2,3} In a recent report from California endoscopy was shown to be more sensitive (92% versus 54%) and specific (100% versus 91%) than the double contrast barium meal.⁴ Should general practitioners have open access to this investigation too?

One of the first reports of an open access endoscopy service in Britain came from Bournemouth, where Fisher *et al* reviewed 304 patients examined in the first 27 months.⁵ The population at risk was not defined, but 80 general practitioners were invited to use the service. One hundred and nineteen examinations (39%) gave normal results, with oesophagitis, duodenitis, and prepyloric and duodenal ulcer accounting for almost all the abnormal findings. There were 21 benign gastric ulcers, two gastric cancers, and one malignant oesophageal stricture. When Holdstock *et al* reviewed the same service after four years they were uncertain about its value.⁶ Over 1000 patients had been referred by general practitioners, but the number of requests for barium meals had not fallen, the number of ulcers and cancers diagnosed had not increased, and the combined overall pick up rate for the two conditions had fallen from

25% to 13% over the study period. They concluded: "While the value of negative endoscopic findings cannot be assessed, there is little objective evidence of benefit. Hence the large increase in numbers of endoscopies performed as a result of the introduction of the service cannot be justified." The number of referrals for endoscopy from other hospital clinics had not decreased either, which suggests that the open access service had not, as had been hoped, reduced outpatient referral.

In 1979 Misiewicz's group reported an "instant" upper gastrointestinal endoscopy clinic for patients referred to hospital for the investigation of dyspepsia.⁷ Instead of admitting patients as day cases and using intravenous sedation, endoscopy was performed immediately after the consultation using topical pharyngeal anaesthesia only and a small diameter instrument. Endoscopy failed in 13 of the 200 patients studied. The results of 30% of the examinations were normal; and 11 gastric and 10 duodenal ulcers and two gastric carcinomas were diagnosed. With the use of a visual analogue scale ranging from "mildly unpleasant" to "unbearable," 175 of the patients examined indicated that they would have undergone a second endoscopy in the same way.

A further report of an open access service was published in 1980, when Gear *et al* reviewed 968 patients referred in the first two years of their service at Gloucester Royal Hospital.⁸ The proportions of normal and abnormal findings were much

as before, and the authors concluded that, "Having an open access service for rapid diagnosis should ensure that patients with dyspepsia are not treated empirically with expensive drugs and that patients with carcinoma or ulcer receive prompt and appropriate treatment. We emphasise too that finding a normal upper gastrointestinal tract may be as helpful as finding a specific lesion." The evidence for these contentions was not, however, apparent from the published results, and Holdstock challenged the authors to provide evidence that they were "either diagnosing patients earlier or picking up patients who otherwise were missed. . . ."

Subsequent discussion about open access endoscopy has generally sought to link the "appropriateness" of referral to the discovery of a specific lesion, but before accepting this view several other uncertainties have to be considered.¹⁰⁻¹² Do we understand the clinical course of dyspepsia in individual patients and in the community? Does radiological or endoscopic diagnosis matter at all to most dyspeptic patients? What price diagnostic certainty in the primary care of dyspepsia? Where do the cost benefits lie?

The clinical course of dyspepsia—upper abdominal or retrosternal pain or discomfort referable to the upper gastrointestinal tract—remains uncertain. Everyday experience tells us that "indigestion" is common—indigestion mixtures account for 13% of sales of over the counter medicines.¹³ In 1951 Doll and Avery Jones estimated that just under a third of the adult population had dyspepsia during a five year period,¹⁴ and Weir and Backett, in a study of 1500 men in north east Scotland, found a prevalence of dyspepsia of almost 25%.¹⁵ Morrell and Wale studied self recording of symptoms by 198 women in groups over one year and reported that "disturbance of gastric function" accounted for about 5% of "symptom days."¹⁶ In 1958 Davies, reviewing all patients seen during a year in general practice, found that digestive disorders accounted for 7% of cases and 9% of patients seen; dyspeptic symptoms were responsible for about 40% of these.¹⁷ Other studies by Fry¹⁸ and Morrell *et al*¹⁹ have reported similar consultation rates, broadly concordant with those from the Second National Morbidity Survey.²⁰ When Gear and Barnes studied patients with dyspepsia lasting over two weeks in a general practice of 7800 a total of 393 patients were investigated by endoscopy over five and a half years.²¹ (Six of these had cancer, 64 had peptic ulcers, and only 99 had entirely normal results.) The annual incidence of dyspepsia, as defined in this study, was about 1%—a figure consistent with the observations of Fry.²² Although the pattern of peptic ulcer disease is changing—prevalence is rising in women and falling in men, so that self reported period prevalence in the United States is now equal in the sexes²³—we have no comparable data about patterns of dyspepsia in the community. There is some evidence that "x ray negative" dyspepsia generally has a good prognosis in terms of developing serious organic disease, but its relation to the development of peptic ulceration is uncertain.²⁴ Although we have glimpses of the clinical course of dyspepsia in the settings of self care, primary care, and secondary care, the studies linking them remain to be done.

How important are investigations in the management of dyspepsia? Until its clinical course is more clearly understood this question cannot be fully answered. In crude terms of "picking up" organic lesions radiological and endoscopic investigations seem to be overused. Mead *et al* suggested that barium meal examinations for dyspeptic patients aged under 50 rarely influenced management²⁵; in 1980 Marton and coworkers confirmed this suggestion and developed a simple rule for requesting an "appropriate" barium meal—based

on a history of peptic ulcer, age over 50, relief of abdominal pain by food or milk, and pain within an hour of eating.²⁶ The presence of any one of these four pointers indicates an appropriate request. Holdstock *et al* had already proposed making their open access endoscopy service available only to patients over 50, for similar reasons,⁶ and the Southampton group subsequently refined proposals for selection by developing a scoring system.¹¹ Discriminant factors in this report were increasing age, history of vomiting, male sex, smoking, and a history of peptic ulcer or hiatus hernia. The authors claimed that this system would reduce the number of examinations by 30% while still detecting 98% of serious disease. Now De Dombal's group has reported a computer based screening questionnaire capable of separating dyspeptic patients into a "low risk group who will require investigation only if their symptoms do not resolve and a group at high risk requiring urgent outpatient consultation."¹²

If a "positive" diagnosis is the desirable result of an endoscopy, this approach is one way of achieving it. But does that mean that an examination showing normal appearances is somehow a failure, a waste? That view was supported in a *Lancet* leading article, which stated²⁷: "Patients and doctors like to know, even if the answers change nothing in the objective terms of treatment and outcome. 'We'll just do an x ray and check' can be a nice piece of magic. . . . In 1980 we have to ask whether we can afford this sort of irrational motive, however human." Assessment of the value of normal findings has to go far beyond mere "reassurance" for doctor and patient. In general practice uncertainty about the undifferentiated illness frequently presented to us is commonplace: toleration of this uncertainty may partly determine a general practitioner's "investigation threshold" in the same way as it may influence the referral threshold proposed by Cummins *et al*.²⁸ Resolution of uncertainty may have a profound influence on subsequent management. We need to look beyond the simplistic, intermediate outcome of "pick up rate" in any investigation and to consider over a longer period the patient's health and related behaviour.

Cost benefit analysis of open access endoscopy services and of the application of discriminant analysis to selection of patients for examination depends—similarly—on measuring longer term outcomes than the results of the investigation. Recent estimates in Dudley put the cost of a barium meal at £24.52 and of a gastroscopy at £26.79, excluding hospital overheads, so that similar revenue consequences should flow from changing referral rates for either.²⁹ We still do not have costings such as the difference between early investigation of dyspepsia for which no "organic" cause is subsequently found, and repeated consultation and finally outpatient referral for barium negative dyspepsia when endoscopy is not available. The workload in the primary care setting, prescribing, the patient's anxiety, time lost from work, and the "medicalisation" of a relatively minor disorder must all enter into a complex equation of cost and benefit. Reviewing cost containment strategies in gastroenterology in the United States, Switz and Danovitch remind us that "the appropriate use of diagnostic and therapeutic procedures—including the hidden costs of 'not looking'—should also be addressed. . . ."³⁰

Responding to the paper by Davenport *et al* on preliminary screening using a computer based questionnaire,¹² Sutton crystallised the dilemma³¹: "For dyspepsia the development of diagnostic technology has outstripped its evaluation. The chief reason for caution in adopting computer technology is the distracting effect it may have on clinicians, to the

detriment of simpler methods of improving performance. Worthwhile but unglamorous innovations, such as structured, reproducible case history sheets, feedback to and education of doctors on common causes of dyspepsia and their discriminant features, and rationalised investigation protocols for outpatient clinics all promise much but may be neglected in the quest for a technological solution." Such recommendations will have to be based soundly on understanding the clinical course of dyspepsia, on the results of outcome studies of investigation and other interventions, and on a consensus which admits the needs of physicians working in both primary and secondary care.

Most of the questions raised here cannot be answered with certainty. Direct access to an endoscopy service may save time and money because it bypasses at least one outpatient visit, but the openness of this access should probably depend on local discussion between general practitioners and gastroenterologists, using the best available information to

define patients at greatest risk. Risk itself needs to be redefined in terms which acknowledge the consequences of diagnostic uncertainty as well as the probabilities of ulcer or malignant disease. Any new direct access service might reasonably accept patients meeting agreed criteria—which might include not only the risk factors proposed by Mann *et al*¹¹ but also therapeutic or management problems in primary care. This approach might also be applied to barium meal requests. Prospective trials of selective access to investigations for patients with upper gastrointestinal symptoms are likely to yield important information about the clinical course of dyspepsia, to sharpen our definitions of those patients who really need investigation, and to provide a basis for making sensible economies.

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