can hardly have been present in so many persons in good general health, particularly as they also denied rectal bleeding. Moreover, these uncomplaining sufferers very often admitted to other symptoms characteristic of the spastic-colon type of irritable-bowel syndrome, such as abdominal distension, a feeling of incomplete evacuation, and a change in bowel habit when an episode of pain began. In the 7%, of subjects whose pains were not relieved by defaecation they were often related to food. Possibly they were due to "functional dyspepsia" or even undiagnosed peptic ulcers.

The frequency of constipation in the British population has long been common knowledge and is to non-sufferers an occasion for mirth. In the Bristol study painless constipation (defined as frequent straining at stool) was admitted by 6% of those questioned and was clearly related to age. Less predictably, a further 4% admitted to painless diarrhoea, which may be a variant of the irritable-bowel syndrome. Finally, no fewer than 14%, said that they suffered from proctalgia fugax. Proctalgia fugax can probably be caused by spasm in the rectosigmoid region, and no less than one-third of its victims also suffered from recurrent abdominal pain of colon-spasm type.

Altogether nearly one-third of the 301 persons interviewed admitted to recognisable functional gut syndromes. Perhaps the most striking statistic to emerge from these studies, however, is that only one-quarter of these had consulted a doctor about their gastrointestinal tract in the past year. It seems that the irritable-bowel syndrome must join hypertension, gall stones, and many other disorders of our society as an iceberg disease.

Doctors may count themselves lucky that so many potential patients prefer to suffer in silence, but they should also ponder the implications of these findings. For a start, they challenge the popular medical belief that the irritable-bowel syndrome is an intestinal response to neurotic anxiety. This is hard to reconcile with the finding that most sufferers do not bother their doctors. Perhaps those who do seek medical advice are the ones with the most severe symptoms, but it is just as likely that they are the ones most worried by their symptoms. This would explain the large proportion of anxious patients with the irritable-bowel syndrome. The first line of treatment is explanation and reassurance; sometimes that is all that is required.

That leaves perhaps the most difficult but also the most intriguing question. Why do so many "normal" people have symptoms of dysfunction of the gut and, especially, of the colon. Advocates of the fibre hypothesis have an answer ready made, but they need to prove that the irritable-bowel syndrome is less common in communities eating a high-fibre diet. Certainly, bran and other bulking agents help in many cases, but not all, and in this condition there is a large placebo effect with any treatment.

Perhaps food allergy or other more subtle effects of diet play only part and psychological factors cannot be discounted altogether. After all, in many ways the irritable-bowel syndrome is analogous to migraine: it may be just as disabling, and both diseases are easy to diagnose if, and only if, a careful history is taken.


Prognosis of Crohn's disease

How should patient and physician react to a diagnosis of Crohn's disease? Is the prognosis bleak or merely somewhat depressing? Four recent papers have summarised the experiences of two physicians and four surgeons in Birmingham who have treated 513 patients with Crohn's disease from 1944 to 1976. Their overall conclusion is that an optimistic attitude to the eventual outcome is justified.

No treatment strategy is generally agreed for Crohn's disease. In Birmingham the approach has been conservative medical treatment combined with, or followed by, aggressive surgical resection. The principles of treatment were bed rest at times of exacerbation, haematinics and liberal blood transfusion, avoidance of excessive dietary fibre, and surgery for complications. The surgeons removed as little bowel as possible but their indications for operation included not only obstruction but also persistent ill health or the presence of fistulas. The medical treatment was so conservative that only one-third of patients ever received steroids, only one in 20 received azathioprine. Only one patient was given parenteral nutrition.

The first paper reviewed 174 patients who had Crohn's disease diagnosed before 1956, the survivors being followed up for a mean of 27-8 years. Only seven patients escaped surgery: one in three had only a single operation, but the average was 2-5. The most frequent definitive procedure was resection of the distal ileum with or without a right hemicolectomy, but 15% underwent panproctocolectomy with ileostomy. The risk of surgery dropped from 11% a year in the first five years after diagnosis to 6%, a year two decades later. Recurrence rates after surgery were unaffected by whether it was the first or the fifth operation, but recurrence was more common in younger patients. Just over one-third of patients developed at least one fistula, most of which responded to surgery. By the end of the study 13%, had their small intestine resected to 200 cm or less, but one-quarter of these died postoperatively. Forty-five per cent became deficient in vitamin B12, and 8% developed osteomalacia.

Renal disease (obstruction of the right ureter, 6%; renal calculi, 5%; enterovesical fistulas, 3%; and renal amyloid, 2%) was relatively common. Six patients developed dementia, three of whom were under 62 at the time of their death.

The second paper reviewed the incidence and causes of death in 513 patients followed up from one to 35 years. The death rate was twice that expected in normal people. The greatest risk was in the youngest patients, falling as time from diagnosis increased. Most of the extra deaths were due to causes directly attributable to Crohn's disease or its complications; 10% of the 513 patients died from Crohn's disease itself.

The third paper showed a clear association between Crohn's disease and carcinoma of the gastrointestinal tract. Thirty-one tumours developed in the 513 patients. Though there was no excess of tumours outside the gastrointestinal tract the risk of gastrointestinal malignancy was increased over threefold. Tumours developed in the oesophagus and stomach (which were macroscopically free of Crohn's disease) and in the colon (particularly if there was extensive colonic disease).

The final paper reviewed 227 patients with Crohn's disease restricted to the terminal ileum at the time of presentation; some patients in the earlier review were included and the follow-up was from 1944 to 1978. Ninety per cent of these patients had surgery, but half had only one operation. Those who needed surgery soon after the onset of symptoms had the
Thomas Lewis and clinical research

On his tombstone Sir Thomas Lewis (1881-1945) is described as "physician and scientist," and, indeed, one of his beliefs was that clinical science should be differentiated from the practice of medicine. While this philosophical concept is still debated there can be no argument about his contributions to cardiology in particular and to medicine in general.

Having studied in Cardiff and qualified from University College Hospital, London, in 1905, Lewis plunged into research as well as clinical work. He was largely responsible for introducing the electrocardiograph into clinical use, and it is a daunting thought that Lewis could master this tool so that within a decade he had categorised the features of most cardiac arrhythmias. Furthermore, within five years of qualifying he had established Heart, forerunner of Clinical Science, which he later handed over to the Medical Research Society. Indeed, this society, the forum where so many young physicians workers present their work, was his creation, and as one of the founder members of the Cardiac Club in 1922 he helped establish its successor, the British Cardiac Society.

Lewis's contributions were by no means confined to electrocardiography and the study of cardiac rhythms, or indeed other aspects of cardiology. In the 1920s and 1930s he turned his attention to the peripheral circulation and to the mechanisms of pain and wrote extensively on the philosophy of clinical science. Nevertheless, his best-known contributions were to scientific cardiology. He had wide influence abroad, especially in the United States; one of his American disciples, the late Samuel Levine, endowed the Thomas Lewis Lecture of the British Cardiac Society in his memory.

Lewis was a vigorous and original worker whose writings still repay rereading. On 24 April a symposium at the Wellcome Institute for the History of Medicine was devoted to him and his work, and an associated exhibition remains open there until 29 May. He died in 1945, 18 years after the first symptoms of coronary heart disease appeared. Lewis had a long association with University College Hospital and the Medical Research Council and is still personally remembered by many, but his influence is also maintained by several of his books: all who work on cardiac arrhythmias recognise the fundamental importance of The Mechanism and Graphic Registration of the Heart Beat, published in 1925.4 Not only was he an original medical scientist whose practical contributions remain of value: today's clinical scientist owes much to the recognition that he receives to the impetus of Sir Thomas Lewis.