LETTERS TO THE EDITOR

Gastrointestinal intraluminal pH

SIR,—The article by Pye *et al* (*Gut* 1990; 31: 1355–7) on the gastrointestinal intraluminal pH in normal subjects and those with colorectal adenoma or carcinoma was an interesting study, but I think that the authors have been too cautious in the interpretation of their data. They state that there were no significant differences among the three groups of patients at each of the anatomical sites. If, however, one compares the pH values given in Table I for the right, mid, and left colon, one finds an increasing difference between the values for the combined neoplasia patients and normal subjects. If the figures given in parentheses are standard deviations and not standard errors, then one can calculate the approximate p values for the differences between the two groups. These are 0.16, 0.054, 0.011, and 0.051 for the right, mid, left, and whole colon respectively. Thus, for the left colon, where the great majority of cancers develop, the difference between the two groups was greatest and significant, at least a value of 0.05.

Table II also shows that in the left colon the pH value in normal subjects over 40 years of age was 0.2 units below those under 40 years of age. As the control subjects were significantly younger (median age 26 years) than those of the patients with adenomas and carcinomas (median age 66 and 62 years), an age matched control series may well have shown an even more significant difference in pH of the left side of the colon between subjects with neoplasia and those acting as controls.

Although the pH difference of 0.3 units found in the combined neoplasia and normal groups may not seem very great, this represents a twofold difference in hydrogen ion concentration.

A raised faecal pH has been found among Indians who have a higher incidence of bowel cancer in their area compared to a geographically separate group of Indians with reduced rates.¹ Three groups have also found a raised faecal pH in bowel cancer patients compared with controls.^{2–4}

The data supplied by Pye *et al* would therefore be compatible with the hypothesis put forward by Thornton⁵ on a causal relation between high colonic pH and the development of colon cancer. The group, however, may wish to remain with their verdict of 'not proven' regarding this hypothesis.

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- 1 Malhotra SL. Faecal urobilinogen levels and faecal pH of stools in population groups of different incidence of cancer of the colon and their possible role in its aetiology. *J R Soc Med* 1982; 75: 709–14.
- 2 Pietrojusti A, Giuliano M, Vita S, Ciarniello P, Caprilli R. Faecal pH and cancer of the large bowel. *Gastroenterology* 1983; 84: 1273.
- 3 Boch K, Kromborg O, Engel K, Kildeberg P. Faecal titratable acid and pH in patients with colorectal adenoma or carcinoma and in normals. *Gastroenterology* 1990; 98: A272.
- 4 Vernia P, Ciarniello P, Cittadini M, Lorenzotti A, Alessandrini A, Caprilli R. Stool pH and SCFA in colorectal cancer and polyps. *Gastroenterology* 1989; 96: A528.
- 5 Thornton JR. High colonic pH promotes colonic cancer. *Lancet* 1981; i: 1081–2.

Sulphasalazine and gastrointestinal transit

SIR,—I would not take issue with the main conclusions of the useful study by Raimundo *et al* (*Gut* 1991; 32: 270–4) on the pathophysiology of diarrhoea experienced by a small proportion of patients with colitis taking olsalazine

Effect of sulphasalazine on gastrointestinal transit and stool output in six normal volunteers. (Results, Mean (SD).)

	Placebo	Sulphasalazine p	
Gastric emptying t_1 (min)	50.0 (19.1)	59.3 (15.6)	NS
Mouth to caecum transit (min)	288 (98)	293 (68)	NS
Whole gut transit time (hours)	38.3 (11.9)	44.6 (15.5)	NS
Mean daily stool frequency	1.1 (0.2)	1.4 (0.4)	NS
Mean daily stool weight (g)	175 (69)	200 (73)	NS

but write to comment on the statement in the Discussion that 'the effect of sulphasalazine on gastrointestinal transit has not been studied'. Raimundo *et al* correctly quote our study showing that olsalazine accelerates intestinal transit but have overlooked another published study using the same method in which we found no effect of sulphasalazine on gastric emptying, mouth to caecum transit time, and whole gut transit time.¹ The Table summarises the important findings.

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- 1 Rao SSC, Holdsworth CD. Influence of olsalazine and sulphasalazine on gastrointestinal transit. *Scand J Gastroenterol* 1988; 23 (suppl 148): 96–100.

BOOK REVIEWS

Diagnosis of acute abdominal pain. By F T De Dombal. (Pp 259; illustrated; £19.95.) Edinburgh: Churchill Livingstone, 1990.

It is a pleasure to welcome a second edition of this book. The general arrangement remains much the same, with a section detailing why the diagnosis of acute abdominal pain is difficult; a section on history taking, physical examination, and immediate special investigations; a third on common surgical problems, with special reference to acute appendicitis *versus* 'non-specific abdominal pain'; then a review of special problems in the elderly patient, in children, and in young women. There is a section on other specific diseases, including cancer, problems in connection with the urinary tract or less common diagnoses that have not already been considered, and finally a review of how the spectrum of acute abdominal pain varies according to presentation and underlying diseases in various parts of the world.

As in the first edition, and in many ways emphasised even more here, the clinical approach to solving the problems of patients with acute abdominal pain is underlined. In a world in which the number of available investigations seems to increase at an ever faster rate,

and their complexity (and cost) baffles the intelligence, it is both reassuring and refreshing to find that taking a history and making an examination remain the bedrock of sound management. As the author mentions in his last chapter, this is because the clinical evidence is now firmly based on a wealth of information from all over the world, amassed by clinicians who are studying the problem in a standardised fashion. This is a move that the author has done so much to encourage by his own writing, and it has certainly paid dividends.

Written in a concise but eminently readable style, and very well presented in a handy hard covered format on good quality paper, I would imagine that most surgeons with a responsibility, present or future, for looking after patients with acute abdominal symptoms will wish to have this book on their shelves.

M HOBBSLEY

Medical laser endoscopy. Edited by Dennis M Jensen and Jean-Marc Brunetaud. (Pp 342; illustrated; £99.) Dordrecht: Kluwer Academic Publishers, 1990.

Lasers have caught the imagination of both the public and the medical profession. Their power seems to offer great therapeutic potential and when this is allied to remarkable design advances in the last decade there would clearly appear to be a place for a book which reviews the current place of lasers in clinical endoscopy. The chief editors are well known for their work in this area and have invited a number of exponents of laser techniques to contribute in their own fields. This is predominantly gastroenterological but includes other areas, for example, bronchial laser work, gynaecological, and bladder. Photodynamic therapy is also reviewed.

The book starts well, with an excellent introductory chapter as one would expect from its author, David Auth. It includes a careful description of how lasers have developed and a glossary, which is an excellent beginning for anyone entering this field. After a chapter looking at the transmission of laser energy through optic fibres, organisational problems in providing a laser service are examined. This is where one of my major criticisms of this book, namely duplication, becomes apparent. There are two separate chapters essentially on organisation. Then chapter 5 gives an excellent scientific basis for the use of lasers in endoscopic haemostasis and tumour treatment, but it is followed by more duplication – two chapters on vascular malformations with quite unnecessary overlap. But that is nothing compared with later, when we have no less than four chapters examining the use of lasers in upper gastrointestinal haemorrhage. There is substantial overlap in these four chapters by different authors. These chapters are expanded accounts of the individual authors' own experience and are long-winded, largely regurgitating their clinical trials.

Four overlapping chapters are enough for any book, so the editors improve on this, and the next grouping has just three overlapping chapters on the role of the laser in treatment of cancer of the oesophagus. Things continue to improve. There are only two overlapping chapters on laser bronchoscopy, an American one describing experience with 31 cases and a French one describing experience in more than 5000. All the chapters are illustrated with line diagrams and some good quality colour plates printed as a separate block centrally in the book.