LETTERS TO THE EDITOR

Endoscopic injection therapy

EDITOR,—It is now very clear that endoscopic injection therapy has become established as an effective treatment for peptic ulcer haemorrhage. As Rutgeerts *et al* state (*Gut* 1993; **34**: 348–50) the optimum injection regimen is still unclear but we suggest that clarity has not been further achieved by this publication. Rutgeerts and others suggest that the combination of epinephrine and polidocanol does not reduce the chance of rebleeding from peptic ulcers while repeat injection with absolute ethanol is an effective regimen. We would like to make several points regarding this conclusion.

Firstly, the number of patients in each treatment group (25) were small and we would be loathe to dismiss the value of combination injection therapy on the basis of this limited number of patients. Secondly (as acknowledged by the authors), the three groups of patients differed in terms of their risk factors. It is widely acknowledged that the presence of shock at the time of admission is an important risk factor for rebleeding, yet twice as many patients who received the epinephrine-polidocanol combination were in a state of shock compared with the sham endoscopy and ethanol treated groups. This well might account for the rather disappointing results of injection treatment with epinephrine-polidocanol. Thirdly, we were struck by the finding that most patients who rebled in the sham treated group were subsequently effectively treated by the epinephrine-polidocanol combination. This is surprising if this form of injection therapy were indeed ineffective. While we dispute the conclusions of this paper, we do agree that further studies looking at different injection regimens are necessary but we would like to emphasise that studies should include adequate numbers of well matched patients.

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EDITOR,—I read with interest the article by Rutgeerts *et al* on endoscopic sclerotherapy for prevention of rebleeding from peptic ulcers (*Gut* 1993; **34**: 348–50). In this study the patients presenting with upper gastrointestinal bleeding and shown, at endoscopy, to have a visible non-bleeding vessel in the ulcer base were randomised to receive endoscopic sclerotherapy with either ethanol, epinephrine polidocanol or a 'sham injection'. The authors, however, do not define the term 'sham injection'. It can be presumed that this was an injection of a physiological solution, such as saline, into the ulcer base in a manner identical to that in the other treatment groups.

In 60% patients (20/25), definitive haemostasis was achieved after a single session of endoscopic sclerotherapy with epinephrine followed by polidocanol. Interestingly, a single session of 'sham injection' therapy achieved definitive haemostasis in 56% patients (14/25). This success rate seems to be significant therapeutically considering that these patients did not rebleed after, presumably, a single session of therapy with an innocuous, physiological solution.

The agents injected into the bleeding peptic ulcers achieve haemostasis by tamponade of the vessel, vasoconstriction, thrombosis of the vessel or by a combination of these factors. In this study, the solution used for 'sham injection' probably lacked the last two properties, and therefore could have effected haemostasis merely by causing tamponade of the vessel. The increasing interest in the field of endoscopic sclerotherapy for bleeding peptic ulcers has seen the emergence of various chemical agents. Most efforts seem to be concentrated on identifying the optimal agent for achieving haemostasis either by thrombosis of the vessel (sclerosant) or by vasoconstriction (vasoconstrictor). If the patients in the 'sham injection' group did receive injections of a physiological solution, the high rate of definitive haemostasis clearly highlights the importance of tamponade, an often neglected factor, during endoscopic sclerotherapy.

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Reply to both letters

EDITOR,—The comments of Choudari and Palmer concerning our recent paper are interesting. In the design of a trial the calculation of the sample size is extremely important. In this paper the numbers were defined based on two assumptions: (1) the average 50% rebleeding rate of non-bleeding protruding vessels reported in published works; (2) the inclusion of a non-treated control group, which decreases the number of patients needed in a study comparing two active treatment methods. Based on statistical prediction 25 patients in each treatment group seemed sufficient. From a statistical point of view significance achieved with low patient numbers carries more power than when large patient groups are necessary to show an effect. Also, to our surprise, the efficacy of epinephrine-polidocanol injection in this study was lower than in other trials[1 2] including our own previous trial.[3] There were indeed more patients with severe bleeding in the adrenaline-polidocanol group. The difference was not significant, but this might explain the lower efficacy.

We do believe that adrenaline-polidocanol is effective but it is not shown by this study. The data are as they are and we feel that it is important that they are reported as such. It might be interesting to perform meta analysis on all the results reported on adrenaline-polidocanol therapy of non-bleeding vessels in gastroduodenal ulcers.

P RUTGEERTS

1 Balanzo J, Sainz S, Such J, Espinos JC, Guarner G, Casso X, *et al*. Endoscopic hemostasis by local injection of Epinephrine and polidocanol in bleeding ulcer. A prospective randomized trial. *Endoscopy* 1988; **20**: 289–91.
2 Pascu O, Draghici A, Acalovehi I. The effect of endoscopic hemostasis with alcohol on the mortality rate of non variceal upper GI hemorrhage. A randomized prospective study. *Endoscopy* 1989; **21**: 53–5.
3 Rutgeerts P, Broeckaert L, Janssens J, Vantrappen G, Coremans G, Hiele M. Comparison of endoscopic polidocanol injection and Yag laser therapy for bleeding peptic ulcers. *Lancet* 1989; i: 1164–7.

The comments of D S Bhandarkar on our recent paper call for some clarification. Sham injection in this study was characterised by clear identification of the non-bleeding protruding vessel, introduction of the injection needle with targeting but without actual injection.

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BOOK REVIEWS

Hepatobiliary Diseases. By J Prieto, J Rodes, D A Shafritz, eds. (Pp 1128; illustrated; DM248.) Berlin: Springer-Verlag, 1992.

In the preface, the three editors of this new book on hepatobiliary diseases refer to 'major developments in molecular biology which have had a significant impact on biomedical knowledge. As a result new concepts in cell biology have emerged . . .'. The reader therefore starts the book thinking that there will be a real attempt to integrate new scientific knowledge with its ability to lead into new areas of mechanisms and the clinical syndrome development. Our knowledge of liver disease is expanding at an extraordinary rate with the application of molecular biology techniques to the viral hepatitides for instance, and there is also the other area of exciting progress in relation to genetic basis and gene product identification. Sadly this is not so and what we have is yet another textbook on liver disease.

According to the editors' hopes, it will be of use to students, postgraduates, gastroenterologists, and hepatologists in training, representing a wide range of requirements to cover. Some chapters on liver function tests do give a straightforward clinical account of the subject suitable for undergraduate students and those early in their postgraduate career, but in other areas, for instance immunology of the liver, the emphasis is much more on the findings of recent research studies.

Paediatric metabolic diseases comprises a book in itself, whereas liver transplantation is very brief and is largely an account of the author's personal experience of the Birmingham programme. The chapter on laparoscopy similarly represents the experience of one particular centre. The authors are drawn from many centres around the world and there was a chance in this volume to give an overall world perspective of liver disease, but again I was unconvinced of its success here. The book can only be described as uneven, and there is also some duplication – nodular regenerative hyperplasia, for instance, is considered in some detail in the chapter on circulatory aspects as well as in that of liver tumours. It would seem also that the respective authors have not read each others' contributions.

The overall presentation by Springer-Verlag is heavy and uninspiring and this reviewer has to admit to a disappointment with this volume. Nevertheless, the hepatologist or gastroenterologist in training will find that many of the

chapters do provide an up to date, authoritative and reasonably comprehensive account of the subjects covered – for instance, the chapters on haemochromatosis, on hepatitis B and C infection, and a number of others as well. There is also a useful account of the structure and function of the liver. But all this is available in a number of other textbooks on liver disease that have appeared during the past two years.

In conclusion I cannot see that this new volume represents a significant advance on books already published. One wonders indeed if the market in hepatic and hepatobiliary textbooks is not now more than saturated.

ROGER WILLIAMS

A History of Gastric Secretion and Digestion: Experimental Studies to 1975. By H W Davenport. (Pp 414; illustrated; £60.) New York: Oxford University Press, 1992.

There is no history of gastroenterology either for the whole field or the separate organs. Present and future gastroenterologists, especially exocrinologists, will forever be indebted to Horace Davenport for giving us this unique and masterly critical history. He covers HCl, pepsins, the gastric mucosal barrier, mucus and cell renewal, reflex and chemical control of gastric secretion, histamine, gastric blood flow, digestion, and absorption. As well as a name index and a subject index there are 1096 notes, each with one or more references. Oxford University Press (New York) are to be congratulated on their elegant production at a reasonable price, and for reproducing the illustrations exactly as in the original publications, and not redrawing them as can happen with other publishers, even OUP (Oxford). This reviewer rarely describes a book as 'essential', but does so now. Every gastroenterologist should have one.

Alas, the chronological scope creates problems. The first problem is understandable. 'I end in 1975 ... for if I attempted to bring the account more nearly up-to-date, it would have degenerated into an indigestible review of current work': Clearly the next edition should cover the last quarter of this century to the same scholarly standard.

The second chronological problem is more fundamental. 'I limit my account by beginning with the period 1777 to 1833 when the pioneers of experimental gastroenterology, Edward Stevens, William Beaumont, Johann Eberle, and their contemporaries, began to gather experimental evidence.' Horace Davenport is William Beaumont Professor of Physiology Emeritus at the University of Michigan, but should his patriotism determine his starting point? With the greatest of respect I must plead that the history of gastric secretion should not begin with Beaumont. Patients with gastric fistulas were studied long before Beaumont. The reader needs to know for acid and for its ferment what Davenport provides for all the other chapters – that is, the origin of these concepts both chemically and medically from ancient times. One needs to know the various chemical and alchemical production of acid through the ages, followed by detailed accounts of the 16th and 17th century pioneers such as Paracelsus, van Helmont, Walaeus, and Viridet. In the 18th century we need to move from Reaumur's buzzards, by the human studies of Gosse and Reuss, to Spallanzani's crows from which Scopoli first proved that gastric acid was HCl. Two previous monographs on the history of gastric secretion, by Leoper (1924) and by Robertson (1931) need citing.

What about the ferment? Davenport rightly devotes pages to the development of the concept of proteolysis and gives the credit for the crucial finding that led to the discovery of pepsin, to Eberle who in about 1832 showed that HCl in vitro does not digest, natural gastric juice does, as does an acidified extract of gastric mucosa. The experiment proved there must be a separate non-acid digestive component in gastric juice and 'that chymefication is not a vital process but a chemical one', leading to Schwann's pepsin in 1836. Two centuries before, however, van Helmont had shown that various acids, unlike gastric juice, do not digest food so that gastric juice must contain an additional non-acid ferment.

Obsessional reviewers can always find errors. One is historical. Davenport rightly honours Franklin Hollander, but describes him as 'a rare bird amongst gastroenterologists, for he knew some chemistry'. I was taught by Hollander, who was not a gastroenterologist: he was a physical and organic chemist who became chief of the GI physiology research laboratory at Mount Sinai. The spelling of names is occasionally eccentric. Crean's first name is Gerard (not Gilbert) and Pearse's is Everson (not Egerson). By some bizarre fate I have become Barron, instead of ...

J H BARON

Hepatobiliary MRI. By D G Mitchell, D D Stark. (Pp 304; illustrated; £84.) St Louis: Mosby Year Book, 1992.

These two North American magnetic resonance imaging (MRI) experts have produced a comprehensive atlas and text on diseases of the liver, bile ducts, and pancreas. It is a useful adjunct to larger textbooks, relating MRI to other diagnostic methods, especially computed tomography.

Early chapters discuss and summarise practical aspects of anatomy, and sensibly omit excessive discussion on physics, so concentrating upon techniques, including chemical shift, spectroscopy, and the use of hepatic contrast agents. The section on segmental anatomy is a model of clarity, while the comparison with computed tomography is beautifully presented, with much new information collated from several centres.

Focal hepatic disease, both benign and malignant, occupy the second section. On the evidence presented, readers would agree that although the spatial resolution of computed tomography remains superior, MRI has higher contrast resolution and is therefore able to characterise the nature of benign lesions more satisfactorily. The authors, like many readers, will have found that similar imaging features may be shared by both benign and malignant hepatocellular tumours.

Part three deals with diffuse liver disease. It is highly detailed and there is accurate and full pathological correlation. The authors do not make excessive claims for MRI in this area, and indicate that the future use of fast scan techniques will greatly improve assessment of hepatic texture and morphology. A good chapter on liver transplantation and 15 colour plates precede the final section on the biliary system and accessory organs, where computed tomography's superior spatial resolution give it pride of place over MRI.

Throughout, the writing is uncluttered and interspersed with a generous film atlas. The gastrointestinal radiologist will be the medico most likely to benefit from this well informed work. I was surprised to find no mention of fibrolammelar cancer and felt the price of the book rather high. Nevertheless, it can be recommended as a solid reference book.

R DICK

Liver Disease and Gallstones: The Facts. By A G Johnson and D R Triger. (Pp 121; illustrated; £12.50.) Oxford: Oxford University Press, 1992.

This is an excellent book. Unfortunately I missed the first edition. The book is written for patients with liver or biliary disease and their relatives. It is one of a large series from the Oxford University Press explaining in non-technical language the facts for patients with conditions as diverse as pre-eclampsia and rabies.

Johnson and Triger's book is a slim volume but manages to cover the whole gamut of liver disease in adults and children and even what to expect if you need a liver transplant. It is clearly written and edited in language for the non-medical reader.

Who are the audience for this nice little book? For most lay readers only the chapter describing their or their relative's disease would be of interest. I imagine that the other chapters would be of only marginal interest except to would be doctors or the ghoulish. The problem, of course, is that we gastroenterologists are not yet up to the task of complementing our short specialist consultations with a 'handout' paper that explains our patient's disease as well and comprehensively as this book does. Until that happy time our patients will have to resort to a book such as this. The price seems as reasonable as you could expect these days. I am sure the price would not deter a patient pointed towards this book.

I have to conclude that this book should be held by every public library and, furthermore, that the title is the one that we should remember when our patients ask us where they can learn more of their hepatobiliary disease.

J A SUMMERFIELD

Atlas of Laparoscopic Surgery. Edited by E J Reddick. (Pp 116; illustrated; $122.50.) New York: Raven Press, 1993.

The editor and his colleagues are well known throughout the world for training surgeons in laparoscopic techniques. Indeed, in the preface, they state they have taught over 25 000 surgeons: one therefore approaches this book with considerable anticipation because of their expertise in this rapidly expanding field.

I am afraid, however, I was disappointed. Although there is a sound section on laparoscopic cholecystectomy lasting 70 pages; laparoscopic appendicectomy, management of peptic ulcer, left colon resection, and herniorrophy are all covered in 42 pages and are covered very superficially. If they are intended as reminders for those who have attended a course, then they may be satisfactory; but for someone approaching them for guidance and the details of the procedure, they are inadequate. It is interesting that the procedure of appendicectomy is covered in less than a page and the illustrations all show appendixes that are not grossly inflamed and, in many cases, are 'lily white': problems and difficulties are not really discussed.