

## 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<sup>1,2</sup> including our own previous trial.<sup>3</sup> 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

- 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.
- 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.
- 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 hepatitis 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