Correspondence

Qualitative differences in faecal alpha-1-antitrypsin in patients with Crohn's disease

SIR,—The use of faecal alpha-1-antitrypsin (A-1-AT) in the assessment of Crohn's disease (CD) activity remains controversial. In a recent study Fischbach *et al* found no correlation of faecal A-1-AT with ESR, serum albumin, orosomucoid, activity index of Van Hees, or CDAI.[1] Conversely, faecal A-1-AT was well correlated with a clinical score, serum orosomucoid, and C-reactive protein in another work by Meyers *et al.*[2] We think that biochemical changes of A-1-AT in the intestine, resulting in an apparent decrease of its faecal concentration, when measured by standard radial immunodiffusion, could explain these discrepancies.

We have compared[3] the biochemical characteristics of faecal A-1-AT in 14 CD (five men, nine women, mean age 28 years) and in 10 healthy controls (six men, four women, mean age 30 years). The CD location was the ileum in five of 14, the ileum and colon in seven of 14, and the colon in two of 14; the mean duration of disease was 4·8 years (0·2-20). According to CDAI, the disease was active in 11 of 14 patients and inactive in three of 14. Twenty four hour stools were collected for three days and homogenised. After preparation, sodium dodecylsulphate polyacrylamide gel electrophoresis and immunoblot were applied to analysis of faecal A-1-AT.

Two main A-1-AT biochemical forms of respectively 38 000 molecular weight and 51 000 mol wt were characterised. Faecal extracts from controls contained only the 38 000 mol wt A-1-AT component. Both 38 000 and 51 000 mol wt A-1-AT were found in faeces of patients with CD. Fifty-one thousand mol wt A-1-AT was only recovered in patients with active CD (eight of 11), while 38 000 mol wt alpha-1-AT was present in three of 11 patients with active CD and three of three with inactive CD. No relationship was established between the form of faecal A-1-AT and sex or age of the patients as well as duration of CD or its location.

Thus different forms of A-1-AT exist in the faeces of patients with CD. This could account for the controversial performances of faecal A-1-AT as a marker of CD activity: when measured by standard radioimmunodiffusion in some faecal samples, concentration of 38 000 mol wt A-1-AT was underestimated by almost 20% as compared with native 54 000 mol wt A-1-AT. Further isolation of different A-1-AT in faeces (especially 51 000 mol wt form) might lead to determination of their relative immunoreactivity. Reassessment of faecal A-1-AT as activity index in CD could then be initiated.

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1 Fischbach W, Becker W, Mössner J, Koch W, Reiners C. Faecal alpha-1 antitrypsin and excretion of ^{111}indium granulocytes in assessment of disease activity in chronic inflammatory bowel diseases. *Gut* 1987; **28:** 386–93.
2 Meyers S, Wolke A, Field SP, Feuer EJ, Johnson JW, Janowitz HD. Fecal alpha-1-antitrypsin measurement: an indicator of Crohn's disease activity. *Gastroenterology* 1985; **89:** 13–8.
3 Mizon C, Becuwe C, Balduyck M, *et al.* Qualitative study of fecal alpha-1-proteinase inhibitor in normal subjects and patients with Crohn's disease. *Clin Chem* 1988; **34:** 2268–70.

Reply

SIR,—Colombel *et al* comment on two different forms of alpha-1-antitrypsin (A-1-AT) as a possible explanation for controversial results concerning the relation between faecal A-1-AT and disease activity in chronic inflammatory bowel disease.[1 2] Their results in a relatively small number of patients seem to confirm this statement.[3] Indeed, this might be a reason for those discrepancies besides the selection of patients investigated.[4] Obviously, both forms of A-1-AT (38 000 and 51 000 mol wt) were recognised by the antiserum used. We can hardly understand, however, the second statement that using standard radioimmunodiffusion the concentration of 38 000 mol wt A-1-AT is underestimated. To prove this, the following procedures are necessary: separation and purification of both forms of A-1-AT to homogeneity and measurement of protein content as well as determination of A-1-AT by radioimmunodiffusion in both preparations. If not done this way, the authors' statement rests on a weak foundation. We believe such investigations to be worth while.

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Books

Epithelia. Vol 1, no 1. Edited by C S Potten. (Pp. 105; illustrated; £50·00 per annum.) Oxford: Oxford University Press, 1988.

For one scientific journal to review another may seem if not incestuous, then at least a trifle patronising. Moreover, welcoming the birth of a journal possibly competing for some of the same material might be regarded as foolhardy. While there is no doubt that the explosion of scientific journals has much to do with the profits of publishing, one side effect that is beneficial is the creation of journals to meet interdisciplinary needs. That epithelial tissues have common structural and functional properties and are afflicted by similar ills is not a new perception, but the creation of a journal that will allow the exchange of information on this topic is an innovation that should be welcomed by gastroenterologists. It has been calculated that provided you count the microvillus surface area, the surface area of the human intestine is larger than a tennis court. Given a territory of this size to administer, gastroenterologists should welcome all the help they can get from others, and this new journal should provide a valuable channel for this. Librarians, please note.

DAVID WINGATE

1987 Year book of digestive diseases. Edited by N J Greenberger and F G Moody. (Pp. 487; illustrated; price not stated.) Chicago: Year Book Medical Publishers, 1987.

It is a pleasure to welcome an old friend again – or, rather, two old friends. Once more, Greenberger and Moody have completed their trawl through an annual harvest of 20 000 papers in gastroenterology and have presented a selection of 250 for our consideration. As always, the abstracts are comprehensive, and often supplemented by key figures or radiographs; above all, each one carries an editorial postscript by one or other of the dynamic duo that emphasises the 'take home' message. This is an easy and pleasant way to keep up with recent developments and continuing controversies. The publishers are to be commended for maintaining a high standard of layout and illustration.

DAVID WINGATE

New pharmacology of ulcer disease. Edited by S Szabo and Gy Mozsik. (Pp. 579; illustrated; $75·00.) New York: Elsevier Science Publishers, 1987.

This book is based on an International Symposium in Pecs, Hungary, in August 1984. It begins and ends well with Wormsley in Part I reminding us of our ignorance on the causes of ulcers and Goldenberg in the final chapter emphasising that the pathogenesis of peptic ulcer pain is unknown and that there is a poor correlation of ulcer healing and symptomatic remission.

Part II (comparative) covers mucosal protection. Part III (special) covers in 44 chapters the 14 different groups of anti-ulcer drugs. Acetazolamide is the drug claimed to have the highest four week healing rates, 95–98% for gastric ulcer, and 97–98% for duodenal ulcer.

The editors have selected experts in their fields, and they have carefully presented experimental data and reviewed literature on their topics. Gastroenterology like most biomedical sciences, however, is caught up in a flood of multi-author, multi-editor texts often originating from conferences. However happy I, as an ulcerologist, am to add this to other similar books on my shelf, I still sometimes wonder whether this massive investment of time and hard work by so many scientists should be spent in such compilations, rather than on their research, their teaching, their patients and even their families.

J H BARON

Diseases of the small intestine in childhood. By J A Walker-Smith. (Pp. 464; illustrated; £45·00.) London: Butterworths, 1988.

John Walker-Smith writes very well indeed. Two previous editions of this book were both highly successful; the third is even better. In an expanded text he provides a highly readable, enthusiastic and up-to-date account of small intestinal disease in childhood. Although paediatric gastroenterology is now a well established speciality, it is one in which new diseases are still being recognised, and this book accurately reflects this steadily increasing body of knowledge.

The coverage is comprehensive, and, as one would expect, coeliac disease and gastroenteritis are dealt with particularly well. Not all would share the author's enthusiasm for routine jejunal biopsy in