Correspondence

Faecal alpha-1-antitrypsin in chronic inflammatory bowel disease

Sir,—Fischbach et al found that patients with chronic inflammatory bowel disease (CIBD) had significantly raised faecal alpha-1-antitrypsin (FA1AT) concentrations compared with controls and other patients with non-inflammatory bowel disorders. Patients with clinically active disease had higher FA1AT’s than those with quiescent disease, but the difference was not significant. Clinical disease activity correlated better with ESR, albumin, orosomucoid, serum A1AT, and 111In labelled granulocyte excretion. Their CIBD patients had lower FA1AT’s compared with those we reported and by Meyers. Fischbach et al suggested that this discrepancy could have been because of ‘patient selection’ rather than a ‘technical problem’. They stated that most of their patients were not very ill; the range of disease activity scores was not presented in their paper.

Fischbach and colleagues concluded that assessment of inflammatory activity can not be solely based upon FA1AT excretion because factors other than mucosal inflammation could result in excessive enteric protein loss. While this might be true, I disagree with some of the author’s interpretations of their results. First, in our experience, patients with moderate to severe CIBD have higher FA1AT’s. One would expect lower values for patients, such as described by Fischbach et al, with only mild clinical disease.

Second, it is possible that the authors’ findings were the result of a technical problem with the assay. The FA1AT concentrations reported in our study were generated on now unavailable Calbiochem Behring M-Partigen radial immunodiffusion (RID) plates. Since then our laboratory has had extensive experience in performing this assay on different RID systems. Other investigators have also reported variation in A1AT values done on different commercially available RID plates. The manufacturer suggests that 20 μl supernatant be placed into the wells of the newer LC Partigen RID plate. We have found that 15 μl is optimal; Fischbach et al used 5 μl in their study. By doing so, they may have used an insufficient volume to allow adequate diffusion of the sample from the wells into the surrounding gel. Thus, many of their values could have been spuriously low. They also did not specify their source of A1AT standards. Standard heterogeneity has been a problem we have encountered with commercial RID systems. One cannot extrapolate standard concentrations determined by nephelometry directly to RID because values determined by the former method are consistently lower. Details of assay technique are extremely important when measuring FA1AT with LC Partigen RID plates because of its narrow quantitative range and the low concentrations of A1AT in stool compared to serum.

Interestingly, Fischbach et al found lower A1AT intestinal clearance for patients with active CIBD. This probably can be attributed to their patients’ elevated serum A1AT concentrations and the use of this value as the denominator in the equation for calculating clearance.

I recommend that differences in techniques be taken into account for comparing data from other studies involving this assay. Because the determination of FA1AT is relatively inexpensive and easy to perform, when done correctly, I feel that its use in the assessment of disease activity for CIBD remains valuable.

DAN W THOMAS

Division of Gastroenterology, Department of Pediatrics, Childrens Hospital of Los Angeles, and the University of Southern California School of Medicine, Los Angeles, CA 90027, USA

References


Reply

Sir,—Thomas comments on some important aspects concerning the usefulness of faecal alpha-1-antitrypsin (A-1-AT) in assessing disease activity in chronic inflammatory bowel disease (CIBD). We appreciate to answer to some of his remarks considering our results as well as general aspects of faecal A-1-AT.

Faecal A-1-AT concentrations were lower in our patients with CIBD compared with those of Thomas.
and Meyers. There was, however, no discrepancy between our controls (0.6±0.1 ng/mg, range 0–2 ng/mg) and the controls of Thomas (0.9±0.1 ng/mg) or Meyers (0–2 ng/mg) indicating that the obvious differences between our and their patients cannot be solely explained by a technical problem. We all used lyophilised stool and determined A-1-AT according to the method of Crossley and Elliott. We did place 20 µl supernatant into the wells of ICA-partigen plates as suggested by the manufacturer and not 5 µl as mistakenly described in our publication. We do feel sorry for this error and are glad to have the opportunity to correct this important point by this way. We still believe that those differences in faecal A-1-AT are probably the result of the selection of patients. As we mainly investigated outpatients disease activity was often relatively low (although they fulfilled the criteria ‘active’). We agree that patients suffering from severe intestinal inflammation will probably show higher concentrations of faecal A-1-AT. Our source of A-1-AT standards were sera with known A-1-AT concentrations, which were placed into the RID plates. We did not use standard concentrations determined by nephelometry for our analyses of faecal A-1-AT by radial immunodiffusion.

There is no doubt that methodological and technical problems have to be considered when comparing data from various studies. In present studies we focus our interest on the 51Cr method and faecal A-1-AT of lyophilised and native stool preparations. These parameters for intestinal protein loss are compared with the faecal excretion of 111In labelled granulocytes. The latter method correlates with endoscopical and histological findings which are regarded as the ‘gold standard’ for estimating inflammatory activity in CIBD.45

We agree that because of its simplicity determination of faecal A-1-AT remains an interesting laboratory test. We think, however, that the relation between faecal A-1-AT and intestinal inflammation has still to be further evaluated.

W FISCHBACH AND J MöSSNER
Medizinische Poliklinik,
University of Würzburg,
D-8700 Würzburg, FRG.

References

Books

This is an excellent book. It is a how to do it book of therapeutic 'surgical' procedures in gastrointestinal endoscopy. It is an enjoyable read and much helped by the high quality of its black and white diagrams. How to do it books have long exerted a powerful pull. I have often been very grateful to the genre as well as occasionally suspicious of it, sometimes catching myself snobbishly contrasting how to do it books with real books. Will I really cook like Paul Bocuse, survive travel in Turkey, rewire that TR6 or play the flute like Quantz if I follow the instructions in that book? Despite occasional disasters I remain optimistic that I cook better, travel, fix my car and play the flute better trying to follow instructions in a book. Will I endoscope better for reading this book? Therapeutic endoscopy lies somewhere inbetween cooking and playing a musical instrument in the degree to which a how to do it book enhances performance. Cooking recipes accurately followed work pretty well even in utterly unskilled hands while reading a book cannot confer excellence in the performance of a musical instrument unless it is backed by considerable time and effort in practice.

This book covers endoscopic therapeutic methods for gastrointestinal bleeding, sphincterotomy, biliary drainage, operative biliary tract endoscopy, polypectomy, dilatation, endoscopic palliation of advanced cancers, foreign body removal and intubation.

I was surprised that a single author can cover as much ground, but he is well read and handles his reading lightly and sometimes critically. The eye is observant: 'The varix is slightly dimpled at the site of entry, no swelling occurs with injection, the resistance to the plunger is not excessive, and the needle withdrawal is followed by a small stream of blood.'

A robust surgical realism keeps surfacing in the text. Listen to these comments on the suggestion that