

- 9 Yeshaya C, Novis B, Bernheim J, Leichtmann G, Samara M, Griffel B. Collagenous colitis. *Dis Colon Rectum* 1984; **27**: 111-3.
- 10 Colina F, Munoz-Yague MT, Solis-Herruzo JA, Vazquez G. Collagenous colitis: the clinical and morphological features. *Postgrad Med J* 1982; **58**: 390-5.
- 11 Cooper BT, Holmes GKT, Ferguson R, Thompson RA, Allan RN, Cooke WT. Gluten sensitive diarrhoea without evidence of coeliac disease. *Gastroenterology* 1980; **79**: 801-6.

Histochemical demonstration of desialation and desulphation by faecal extracts

SIR,—We were interested in the paper by Rhodes *et al* (*Gut* 1985; **26**: 1312-8) in which they suggest that ulcerative colitis could be caused by an inherited defect in colonic mucus rendering it susceptible to enzymatic degradation by bacterial enzymes. We have shown that there does indeed exist within the general population heterogeneity in colorectal mucus.¹ We found that 8% of subjects (in a survey of 110 patients) secreted sialic acid lacking O-acetyl substituents when the remaining patients secreted O-acetyl sialic acid. Recently we have noted that the sialic acid lacking O-acetyl substituents shows increased susceptibility to sialidase digestion (unpublished observations). Sialic acid lacking O-acetyl substituents is found more frequently in patients with ulcerative colitis² and we are trying to determine if this is acquired or represents a genetic condition that predisposed to the disease. We wonder if the failure by Rhodes *et al* to differentiate between colitics and controls could be due to an over representation of subjects with the abnormal mucus within their control group.

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References

- 1 Sugihara K, Jass JR. Heterogeneity of colorectal goblet cell mucus and its relation to neoplastic disease. *J Pathol* 1986; **148**: 83.
- 2 Culling CFA, Reid PE, Worth AJ, Dunn WL. A new histochemical technique of use in interpretation and diagnosis of adenocarcinomas and villous lesions in the large intestine. *J Clin Pathol* 1977; **30**: 1056-62.

Reply

SIR,—The finding by Drs Jass and Sugihara that 8% of normal subjects secrete colonic sialomucins that are less O-acetylated and less sialidase resistant than normal is very interesting and it is certainly plausible that this may be a risk factor for the development of

colitis. It seems unlikely, however, that the 17 control subjects in our study, all of whom had the irritable bowel syndrome and normal rectal histology, should be particularly likely to come from this 8% of the population. Further work is clearly needed to determine the structural and functional abnormalities of colonic mucus in ulcerative colitis.

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Twenty four hour intragastric acidity analysis for the future

SIR,—We read with interest the article by R P Walt (*Gut* 1986; **27**: 1-9) which considers the consequences of expressing an ensemble of acidity data by an index such as the mean or median value of a group of pH or hydrogen ion activity values. While in agreement with much of the article, we believe it may itself propagate further misunderstanding, if we have correctly interpreted the text.

Hourly hydrogen ion activity in a duodenal ulcer patient is presented (Fig. 1) with hourly pH. Mean pH is 1.67, the antilog of which is 21.3 mmoles/litre but the mean hydrogen ion activity is 34.7 mmoles/litre. This discrepancy is considered to be 'an unresolved problem of analysis' because these values 'should be equivalent, as they are derived from the same data'. By equivalent, we assume that the author means numerically identical. But it should be recalled that to average the logarithms of n numbers is to calculate the nth root of the product of those n numbers: this is equivalent to calculating the geometric mean. Averaging logarithms of numbers is not the same process as averaging the numbers themselves. It is well known¹⁻³ that the geometric and arithmetical means will *not* be equivalent. The numerical difference between mean pH and antilog mean hydrogen ion activity (Fig. 5) is therefore to be expected as two quite distinct processes have been carried out to calculate these figures. The numerical difference is only an unresolved analytical problem if it is assumed that none should exist. As a difference does exist, the use of median values to minimise this computational difference then seems to be of doubtful value.

The author seems to have misunderstood a fairly basic point and in doing so has equated the problem of analysis with that of representation. What concerns us is not that the author has apparently erred; everyone makes mistakes. What is puzzling is that the referees, who often exercise unchallengeable rights of imprimatur, have also failed to grasp a

fundamental point about the representation of acidity.

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References

- 1 Hoel PG. *Introduction to mathematical statistics*. New York: Wiley, 1954: 56–7.
- 2 Taylor AG. *Advanced calculus*. Boston: Ginn & Co., 1955: 204–5.
- 3 England JM. *Medical research*. Edinburgh: Churchill Livingstone, 1975: 133–5.

Reply

SIR,—Drs Rawlings and Lucas have misunderstood. Of course I accept that arithmetic and geometric means are not numerically identical. What I was suggesting was that the expected differences between those means are not generally *considered* in interpretation and therefore the use of a common method would allow authors to compare one set of data with another. I also suggested that there are reasons why median data are preferable to mean data from skewed distributions. When comparisons between different studies are made, for example as estimates of a drug's potency, conclusions are bound to depend upon the analytical methods used and moves to unify these, I believe, are desirable.

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Books

Surgical treatment of digestive disease. Edited by F Moody. (Pp. 847; illustrated; £95.) Oxford: Blackwell Scientific Publications, 1986.

In my opinion this is the best definitive textbook that is available on the subject of digestive surgery. The authors, a formidable crew in their own right, have assembled a board of 86 co-authors to write individual chapters. Each of these co-authors is acknowledged as being the best in this field in the United States and therefore the world.

Only two contributors are not from the United States and these are much revered father figures of digestive surgery, long since retired. Perhaps the authors are telling us that no contemporary European surgeons have anything useful to say. It is more likely that the senior author's editorial experience

has taught them to know which of their colleagues not only write well but also deliver the goods on time. Therefore, it is no surprise to find this book provides the most authoritative last word on each and every aspect of the subject. It would be invidious to single out any one chapter for special mention. Everywhere I dipped in this book I found well written, balanced summaries of the present state of our knowledge. I have no doubt that a candidate for any higher surgical examination would pass if well versed in the wisdom and knowledge of this book.

Although 880 pages of text seems a lot, they cover a vast subject. Inevitably some of the statements appear as unsubstantiated didacticism. To present all the arguments and evidence for and against any particular option or recommendation, however, would have made this book unmanageably large.

This book manages to concentrate on technique in those sections where technique is important, such as in anti-reflux procedures at the gastro-oesophageal junction or the construction of continent ileal pouches, whereas in other sections the precise technique is hardly mentioned.

Inevitably there are a few disadvantages, the most obvious is the price. There are not many books priced at more than 10 pence a page and there are few examination candidates I know who could afford the outlay of £95. Nevertheless it is well worthwhile encouraging your library to devote a large portion of its budget towards purchasing this book rather than three or four other lesser monographs on the subject. Another disadvantage is that with so many co-authors the standard of writing and illustrating is not uniform. This is more noticeable with the illustrations than with the text, which has been edited extremely well. The main disadvantage of the illustrations is that many of the co-authors have reproduced line drawings or halftones from their previous papers and many of these are labelled as being 'used by permission'. In most instances it would have been better had the permission not been given and a single artist commissioned to perform clear line drawings. Some chapters are well illustrated, some poorly illustrated and some not illustrated at all. These criticisms are relatively insignificant, however, when weighed against the general high quality of the production and the overwhelming weight of surgical knowledge and wisdom.

J ALEXANDER-WILLIAMS

Nutrition in clinical surgery Edited by M Deitel. (Pp. 411; illustrated; £55.) Baltimore & London: Williams & Wilkins, 1985.

The role of nutrition in the clinical management of patients has undergone a revolution in the last two