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Reply

SIR,—We were interested to read Dr Cooper's letter and to see that his most recent experience confirmed his earlier findings that the prevalence of oesophageal stricture in Barrett's oesophagus is substantially lower than that of 30–80% previously recorded. Barrett's oesophagus represents the end stage of severe oesophageal damage and it is understandable that many have found associated oesophageal stricture to be much commoner than in reflux oesophagitis without Barrett's. It is generally recognised that particularly in the elderly, symptomatic disability and severity of oesophagitis do not show a close correlation and it may well be that the now widespread use of fibreoptic endoscopy in gastroenterological units is bringing to light gastric epithelialisation of the lower oesophagus in patients who some years ago might well never have been endoscoped. This might well explain the apparent discrepancy between Dr Cooper's figures and our own which go back for up to 12 years.

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Age related increase of brush border enzyme activities along the small intestine

SIR,—We should briefly like to comment on the recent paper by Raul and co-workers (*Gut* 1988; **29:** 1557–63), which describes studies in which small intestinal morphology and brush border hydrolase activity was measured in three, 12, and 29 mo Wistar rats. Overall, our findings in the chow fed Fischer 344 rat, raised under barrier reared conditions by contract with the National Institute on Aging, are similar. We also found no change in proximal intestinal brush border hydrolase activity, but only in the rate of enzyme expression in mucosal epithelial cells.[1] Furthermore, we have confirmed our initial preliminary observations[2] that ileal villus height and cell number are greater in 27 mo than in the four to five mo rats,[3] in agreement with Raul's data. We were puzzled, however, by the somewhat discrepant observations of a fall in proximal intestinal villus height and crypt depth coupled to an increase in gut cell mass and protein content. Initially, we wondered whether the reduction in proximal intestinal villus and crypt dimensions seen in senescent rats, in the study of Raul and coworkers, was the result of reduced food intake (quoted as 14–18 g *v* 20–25 g per day), but we are at a loss to understand the presence of an increased gut protein content at the same time. A fall in protein degradation is commonly seen in the organs of aging rodents,[4] but this has not been confirmed in the small intestine.[5] We look forward to further studies that can elucidate these most interesting observations.

We are sure, however, that both of our groups agree that these changes in brush border hydrolytic enzymes are unlikely to be of nutritional significance although they clearly may suggest some fundamental age associated changes in the gut similar to those that our group have described for proliferation of the small[6] and large[7] intestine. We are delighted to see another experimental group pursuing studies of the aging gut.

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