

## Comment

### RADIOLOGICAL SIGNS OF ULCERATIVE COLITIS

May I be permitted to comment on the first paper by Professor J. C. Goligher and his colleagues in *Gut* (9, 157-163) which purports to assess the reliability of the radiological signs of ulcerative colitis.

Their study of the value of radiological signs has not been correlated with the pathological findings, so that there is no proof that their diagnoses of 'ulceration' or 'pseudopolyps' is correct. In effect, then, the agreement between the two observers indicates only observer consistency, and not reliability in the true sense of that word. It is possible to be consistent in error. Thus there might have been little observer variation in the diagnosis of pneumonia on chest radiographs 10 to 20 years ago, on appearances now shown to be due to infarction.

The authors include among their 'frequent but unreliable signs' the smooth contour described by Dick, Berridge, and Grayson (1959). The importance of the possible association of a smooth contour with an atrophic or completely denuded mucosa is clearly demonstrated in this paper. Yet Dick *et al* make it clear in their summary that a smooth contour may be associated with a normal or abnormal mucosa, and only the presence of other abnormalities would indicate ulcerative colitis. In fact the smooth contour of ulcerative colitis is identical with the smooth contour of the normal colon, so that it cannot be used as a sign of ulcerative colitis. The variation between the two observers in this respect is two-thirds of their agreed incidence, so it follows that they are unable to agree on the recognition of the normal contour of the bowel in a large proportion of cases.

Suppose one were to assess the incidence and reliability of the radiological signs of gastric carcinoma on the basis of a series of only 20 cases. It might well be that two observers would fail to agree on the presence of, say, the meniscus sign or the gastric inlet jet sign, as their incidence is low. However, they would be mistaken if they concluded that both signs were valueless, or indeed did not occur at all. Yet this is just what the authors of this paper have done. On an analysis of only 20 cases, they dismiss as useless the radiological sign called corrugation of the colon, their two observers being unable to agree that it

was present in any case. Their failure to agree was attributed by them to the unreliability of the sign. However, as corrugation is a precise descriptive term there is little room for disagreement on its recognition. The normal haustration of the colon, as seen in the filled stage of the barium enema, in no way resembles the smooth undulations of the edge of a corrugated iron roof. The latter pattern should be readily discerned, and indeed a paper by Fennessy, Sparberg, and Kirsner (1966) shows a typical example of corrugation in one of the illustrations. The surprising lack of agreement between the two observers suggests that the sign was not present in any of their cases.

Their rejection of signs with an incidence of less than 10% as useless would appear to be a subjective value judgment of no validity. A recent paper gives the incidence of gas in the biliary tract in gall-stone ileus as only one out of 25 cases, but it does not follow that the identification of gas in the biliary tract is therefore a useless sign.

I have in recent years preferred to use, instead of corrugation, the more general term 'abnormal haustration' when reporting barium enemas as it is self-explanatory to the clinician. Nevertheless, corrugation of the colon remains a useful concept to the radiologist, as those unfamiliar with it may pass as normal an extensively diseased colon. I have seen a few cases, in which corrugation in the filled stage was the only positive radiological finding in ulcerative colitis.

Having disposed of corrugation, the authors paradoxically describe a further form of abnormal haustration, in the postevacuation phase of the barium enema, when the appearances are even more difficult to interpret.

In such a complicated subject as the radiological diagnosis of ulcerative colitis, there is no justification for ignoring any of the available data, however low the incidence of any particular item.

#### REFERENCES

- Anton, H. C., and Palmer, J. H. (1962). Corrugation of the colon: its significance in ulcerative colitis. *Brit. J. Radiol.*, 35, 762-768.  
 Dick, A. P., Berridge, F. R., and Grayson, M. J. (1959). The pathological basis of the radiological changes in ulcerative colitis: a study of cases treated by colectomy. *Ibid.*, 32, 432-449.  
 Fennessy, J. J., Sparberg, M., and Kirsner, J. B. (1966). Early roentgen manifestations of mild ulcerative colitis and proctitis. *Radiology*, 87, 848-858 and 863.

H. C. ANTON  
*X-ray Department,*  
*Stobhill General Hospital,*  
*Glasgow*