

## REFERENCES

- Baker, H., and Frank, O. (1967). In *The Vitamins*, edited by P. Gyorgy and W. N. Pearson, 2nd ed., vol. 7, p. 269. New York.
- Baker, H., et al. (1964). *J. Amer. med. Ass.*, **187**, 119.
- Baker, H., et al. (1965). *Amer. J. clin. Nutr.*, **17**, 88.
- Burgen, A. S. V., and Goldberg, N. J. (1962). *Brit. J. Pharmacol.*, **19**, 313.

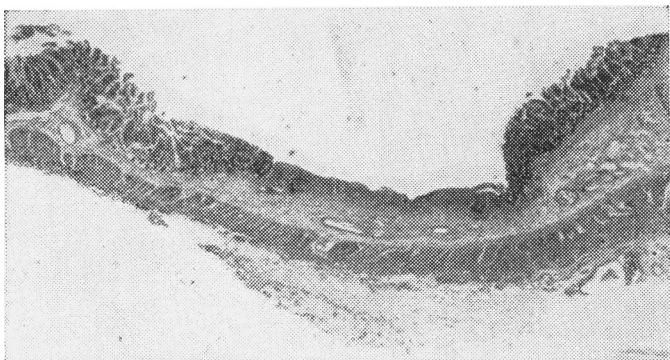
- Chanarin, I., Anderson, B. B., and Mollin, D. L. (1958). *Brit. J. Haematol.*, **4**, 156.
- Duthie, H. L. (1967). *Brit. med. Bull.*, **23**, 213.
- Herbert, V., and Zalusky, R. (1962). *J. clin. Invest.*, **41**, 1263.
- Klipstein, F. A. (1966). *Bull. N.Y. Acad. Med.*, **42**, 638.
- Klipstein, F. A. (1968). *Gastroenterology*, **54**, 275.
- Veeger, W., ten Thije, O. J., Hellemans, N., Mandema, E., and Nieweg, H. O. (1965). *Acta med. scand.*, **177**, 493.

**Medical Memoranda****Primary Non-specific Ulcer of Ileum Presenting with Massive Rectal Haemorrhage***Brit. med. J.*, 1968, **3**, 474

Primary ulcer of the small intestine occurring beyond the duodenum is rare. It has to be differentiated from multiple ulcers occurring in Crohn's disease and from ulcers due to uraemia, typhoid, tuberculosis, and other specific infections. Baille first reported a case of primary ulcer of the ileum in 1805. Reviews published by Morrin (1931), Evert *et al.* (1948), and Morlock *et al.* (1956) include 147 cases. There are also a number of single case reports, and a total of some 175 cases have been reported. The present case report describes an ulcer of the ileum in a youth of 16 who was seen and treated at the Friarage Hospital, Northallerton. This case differed from most of the recorded cases with ulcers of the small intestines in that the presenting symptom was a massive rectal haemorrhage.

## CASE REPORT

A youth aged 16 was admitted to hospital, having lost about 3 pints (1,700 ml.) of blood per rectum one hour previously. There was no history of abdominal pain or indigestion, or of his having taken any drugs like aspirin or potassium chloride in the recent past. He was found to be shocked, with blood pressure of 90/60 mm. Hg and a pulse rate of 100. Clinical examination showed no abnormality of the abdomen, and proctoscopically there was no local cause for the bleeding. Transfusion of 2 pints (1,140 ml.) of blood did not produce much improvement and the loss of fresh blood per rectum continued. Laparotomy was carried out through a right paramedian incision. The stomach, duodenum, jejunum, and proximal ileum were collapsed and empty. The large bowel contained blood but no bleeding site was seen. A segment of terminal ileum about 3 ft. (90 cm.) from the ileocaecal valve was distended with blood. At the apex of this segment there was an ulcer with an eroded blood vessel at its centre which was clearly the cause of the haemorrhage. A segmental resection and end-to-



Section through the ileum showing the ulcer. The ulcer is a superficial erosion which does not extend deeper than the mucosa. Several small arteries are seen in the submucosa and normal ileal mucosa to the edge of the erosion. (Haematoxylin and eosin.  $\times 3.8$ .)

end anastomosis were carried out. The patient made an uneventful postoperative recovery and was discharged home on the fourteenth postoperative day. He has since been seen at the follow-up clinic and has remained symptom-free.

Examination of the resected loop showed a superficial ulcer in the mucosa 2 by 1 cm. with a small bleeding vessel in the floor. The appearance of the rest of the resected loop was normal. No diverticulum was present. Section of the ulcer (see Fig.) showed that it was superficial; the mucosa had disappeared but the submucosa was intact. There was little evidence of inflammation and none of a specific infection. Several small arteries about 500 microns in diameter were present in the submucosa. Because the ulcer was in the part of the ileum where a Meckel's diverticulum might occur a careful search was made for ectopic gastric mucosa such as is sometimes found in Meckel's diverticulum, but none was found. None the less, because of the resemblance of the ulcer to a superficial gastric erosion, the pathologist thought it possible that there had been a small area of ectopic gastric mucosa which had subsequently been entirely eroded.

## COMMENT

Simple ulcers of the small intestine have occurred at all ages from 1 to 77 years, the average being 47 years. Seventy-five per cent. occurred in males. The origin is obscure. The causes that have been suggested include inflammation of bacterial origin, damage by a foreign body subsequently passed, and local ischaemia of the mucosa owing to vascular changes in the mesentery. Few of the symptoms and signs in the reported cases have been directly attributable to the ulcers, though in a few cases there was colicky abdominal pain. Usually the ulcers remained unsuspected until operation had been carried out for complications—these were perforation (85%), intestinal obstruction (10%), or haemorrhage (5%). In some of the reported cases the ulcer was discovered only at necropsy. In the cases where bleeding occurred it was nearly always in the form of melaena rather than an overt loss of fresh blood from the rectum. Watson (1963), reviewing the more recent case reports, stated that with earlier surgical intervention local perforation with obstruction has replaced acute perforation as the complication most often encountered. The treatment is resection of the involved segment with end-to-end anastomosis, and earlier resort to surgery has reduced the high mortality (60%) reported by Morrin (1931) to about 11% (Morlock *et al.*, 1956).

I wish to express my thanks to Mr. F. Ellis, under whose care this patient was admitted, for permission to publish the details and for his guidance in the preparation of this paper, and to Dr. P. N. Coleman for his help with the histopathology.

M. J. SHAH, F.R.C.S.,

Surgical Registrar, the Friarage Hospital, Northallerton, Yorkshire.

## REFERENCES

- Evert, J. A., Black, B. M., and Docherty, M. B. (1948). *Surgery*, **23**, 185.
- Morlock, C. G., Goehrs, H. R., and Docherty, M. B. (1956). *Gastroenterology*, **31**, 667.
- Morrin, F. J. (1931). *Irish J. med. Sci.*, p. 198.
- Watson, M. R. (1963). *Arch. Surg.*, **87**, 600.