

## NON-SPECIFIC ULCERATION OF THE SMALL BOWEL

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Non-specific ulceration of the small bowel is a rare condition. Only 130 cases were described before 1948.<sup>1</sup> The Mayo Clinic treated 18 cases during the period 1946-1955,<sup>2</sup> while Craighead<sup>3</sup> reports 7 cases out of 1,035,943 admissions. At the General Hospital, Pretoria, 3 cases were admitted and treated during a 6-month period (February—July 1965). The purpose of this paper is to review our experience with these cases and to briefly discuss the condition.

### CASE REPORTS

#### Case 1

G.N., a 16-year-old Bantu male, was admitted on 28 July 1965. The patient had been in excellent health until 2 weeks before admission. He then developed abdominal pain which he described as a 'vague discomfort' and it cleared up spontaneously after 24 hours. Three days before admission the pain recurred, this time more severely; it came on 12 hours after a drinking party. No stools or flatus had been passed for the previous 24 hours and vomiting occurred.

*On examination* the patient was acutely ill and shocked. The temperature was 101°F, and the pulse 112/minute. The abdomen was distended, and bowel sounds were present although diminished; rebound tenderness was present. WBC 10,000/cu.mm. Faecal cultures were negative.

Radiography showed distended loops of small bowel as well as fluid levels. Air was present under the diaphragm.

*At laparotomy* a large quantity of sero-purulent fluid was found in the peritoneal cavity. There were 2 perforations in the distal ileum, 6 in. apart. The perforations, situated on the antimesenteric border, were round and 1-1½ cm. in diameter. The surrounding ileum appeared oedematous and there was regional lymph node enlargement. After biopsy specimens of the margin of the ulcers had been taken, both perforations were oversewn.

*Histology.* Sections of the margin of the perforation showed widespread infiltration by acute inflammatory cells. No specific

aetiological factor could be demonstrated.

The patient made an uneventful recovery, and was discharged on the 10th postoperative day.

#### Case 2

S.P., a 34-year-old Bantu male, was admitted on 26 February 1965. The patient had been in excellent health until 3 days before admission, when he suddenly developed an acute abdominal pain. The pain originated around the umbilicus but later spread towards the RIF. Vomiting was present on the day of admission, but the bowels were normal.

*On examination* the patient was acutely ill and severely shocked. The blood pressure was 95/60 mm.Hg, the pulse was 100/min. and temperature 100.4°F. There was generalized tenderness and distension of the abdomen, more marked in the RIF, and there was rectal tenderness high up and to the right.

Radiography showed a few distended loops of small bowel and fluid levels were present.

*Laparotomy* showed the presence of sero-purulent fluid. A single round perforation was found in the terminal ileum 6 ft. from the ileo-caecal valve on the antimesenteric border. This perforation was approximately 1 cm. in diameter. Regional lymphadenopathy was also present. A biopsy of the ulcer was taken and the perforation oversewn.

*Histology.* Non-specific acute enteritis.

No complications arose and the patient was discharged on the 10th day.

#### Case 3

W.S., a 24-year-old Bantu male, was admitted on 13 April 1965. This patient was in good health until 2 days before admission, when he developed an acute abdominal pain which was situated mainly over the lower abdomen and was cramp-like in character. Persistent vomiting was present and the motions were loose and watery.

*On examination* the patient was ill and restless. His pulse was 114/min., the temperature 100.6°F and the blood pressure 100/65 mm.Hg. Pronounced tenderness was present over the

whole abdomen and rebound tenderness could be elicited. Bowel sounds were diminished. Rectally, tenderness was present.

Radiography showed the presence of air under the right diaphragm. Distended loops of small bowel and fluid levels could be seen.

At laparotomy a large amount of purulent fluid was found. There was a single perforation in the terminal ileum, approximately 1 cm. in diameter. Regional lymphadenopathy was present. The surrounding ileum was found to be oedematous. No biopsy was taken in this case, and the perforation was oversewn.

*Postoperative period.* Bowel sounds became normal after 36 hours. On the 5th postoperative day the patient developed acute dyspnoea with pain in the chest, collapsed and died shortly afterwards. The relatives unfortunately refused a post-mortem examination but the cause of death was probably a massive pulmonary embolism.

#### AETIOLOGY

The aetiology of non-specific ulceration of the small bowel is unknown, and no proven cause has been found at present.

#### Peptic Ulceration

Although this condition can mimic peptic ulcer, most patients have normal or low gastric acid secretion.<sup>4</sup> Furthermore, once the ulcers are excised, these patients are remarkably free from recurrence. No proof of ectopic gastric mucosa has been found on histological examination. Zollinger and Ellison's case<sup>5</sup> had peptic ulceration of the jejunum due to islet cell tumours of the pancreas.

#### Infection

Staphylococci, streptococci, salmonellae, amoebae, cholera, tuberculosis and syphilis may all produce ulcers of the small bowel. No specific organism was found in the cases reported by Seddon *et al.*<sup>6</sup> nor could we demonstrate any specific organism or a histological picture resembling, for example, typhoid, in our series.

#### Drugs

Aspirin, phenylbutazone, corticosteroids and cincophen may cause ulceration, but a history of ingestion of these drugs must indeed be fortuitous. In our series no evidence was found of a drug causing the ulceration.

#### Trauma

The ulcers do not resemble ulcers caused by trauma. These lesions are usually round, with oedema and have the appearance of a chronic ulcer.

#### Vascular Lesions

Embolism, thrombosis and collagen disorders may cause ulceration,<sup>6</sup> but none of these factors was found in our cases.

#### PATHOLOGY

#### Distribution and Morphology

Although the proximal jejunum and distal ileum are mostly affected, any part of the small intestine may be involved.<sup>6</sup> The disease is found in all age-groups, including neonates,<sup>7</sup> and there is a preponderance of males.<sup>4</sup> In the cases presented here all the patients were young males. The ulcers may be single or multiple; in our series 1 patient had 2 ulcers. These are usually situated on the antimesenteric border.

#### Histology

The histological picture is of non-specific inflammation with varying degrees of lymphocytic infiltration and fibrosis.

#### DISCUSSION

The 3 cases presented here, were all young Bantu males (aged 16, 34 and 24 years respectively).

Two cases were in excellent health before commencement of their symptoms (cases 2 and 3). Case 1, on the other hand, had a similar attack 2 weeks previously. This pain was almost certainly caused by the ulcer in the distal ileum. Horwitz *et al.*<sup>8</sup> described a case having several attacks of abdominal pain similar to the pattern of pain found in a peptic ulcer before the ulcer of the ileum was eventually diagnosed at laparotomy. In one of our cases (case 1), it is possible that the heavy drinking could have precipitated the perforation.

#### Diagnosis

The diagnosis is always made at laparotomy. We believe, however, that with advances in the technique of small bowel investigation, a pre-operative diagnosis will be made more frequently in the future.

#### Treatment

The treatment of choice, according to the available literature (e.g. Horwitz *et al.*,<sup>8</sup> Shea,<sup>9</sup> Morlock *et al.*<sup>2</sup>), is resection of the affected segment. The perforations could also be oversewn—our 3 cases and a case described by Seddon *et al.*,<sup>6</sup> were treated in this way. The brief follow-up in our series does not allow us to draw definite conclusions in this respect, although the postoperative period appeared to be uneventful.

#### Prognosis

The prognosis, especially after resection, is good. Morlock *et al.*<sup>2</sup> have a follow-up of up to 25 years with no recurrence of symptoms.

#### SUMMARY AND CONCLUSION

1. Three cases of non-specific ulceration of the small bowel are presented. This diagnosis should always be kept in mind, in patients with a history of peptic ulceration, where the barium meal is negative. Similarly, in cases of peritonitis of unknown origin, a careful examination for minute perforations in the small bowel should be made at laparotomy.

2. No case has yet been diagnosed before the onset of complications. The complications are perforation, haemorrhage and obstruction.

3. Resection seems to be the treatment of choice though in a few cases the perforations were oversewn, with apparent good results.

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#### REFERENCES

1. Evert, J. A., Black, B. M. and Dockerty, M. B. (1948): *Surgery*, **23**, 185.
2. Morlock, C. G., Goeurs, H. R. and Dockerty, M. B. (1956): *Gastroenterology*, **31**, 667.
3. Craighead, C. C. (1952): *Amer. J. Surg.*, **84**, 47.
4. Morrin, F. J. (1931): *Irish J. Med. Sci.*, **6**, 198.
5. Zollinger, R. M. and Ellison, E. U. (1955): *Ann. Surg.*, **142**, 709.
6. Seddon, J. A., Hamilton, D. W. and Downie, R. J. G. (1965): *Brit. J. Surg.*, **52**, 367.
7. Schiff, C. A. (1955): *Arch. Surg.*, **70**, 439.
8. Horwitz, F., Parathy, R. and Baronofsky, I. (1960): *J. Mt Sinai Hosp.*, **27**, 308.
9. Shea, P. C. (1951): *J. Amer. Med. Assoc.*, **146**, 1490.