Metoclopramide as an adjunct to small bowel intubation

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Metoclopramide (Maxolon) is an effective antiemetic (Handley, 1967; Trafford, Fisher, Marshall, and Douthwaite, 1967), which causes increased gastric peristalsis with pyloroduodenal dilatation and decreased gastric emptying time (Grivaux, Cornet, and Wattez, 1964; Margieson, Sorby, and Williams, 1966; Tavernier and Lacroix, 1966; Jacoby and Brodie, 1967; Trafford *et al*, 1967). Few side effects have been described (Grivaux *et al*, 1964; Margieson *et al*, 1966). These properties suggest that it is an ideal drug for facilitating duodenal intubation. This hypothesis was tested by assessing the effect of metoclopramide on the speed of small bowel intubation.

METHOD

Small bowel intubation for sampling jejunal mucosa was performed routinely with a multipurpose suction biopsy tube (Brandborg, Rubin, and Quinton, 1959). The procedure was carried out under fluoroscopic control by the same examiner (A.B.S.M.). All medication other than that relevant to the test was discontinued for at least 12 hours beforehand. The patients were fasted and allocated to one of three groups.

Group A received no premedication, group B sucked 25 mg amethocaine lozenges 30 and 10 minutes before intubation, and to group C 20 mg metoclopramide was administered intramuscularly 10 minutes before intubation.

m = Metoclopramide (20mg.)
a = Amethocaine lozenges

FIG. The effect of metoclopramide on the speed of small bowel intubation.

The effect of the premedication was assessed by timing the total procedure from intubation until the biopsy procedure was completed. When the duodenum had not been intubated within 40 minutes, 20 mg metoclopramide was administered intravenously.

RESULTS

The results are expressed diagrammatically in the Figure. In the unpremedicated group A, only one biopsy was performed in under 40 minutes (15 min), three were completed after intravenous metoclopramide (7, 16, and 25 min), and one was abandoned. With pharyngeal anaesthesia (group B), three were completed in under 40 minutes (11, 15, and 20 min), and the remainder after intravenous metoclopramide (6 and 10 min). In group C, receiving metoclopramide premedication, all biopsies were completed in under 40 minutes (4, 6, 13, 16, and 26 min). No side effects were observed from 20 mg metoclopramide given intramuscularly or intravenously.

CONCLUSION

The results of this study support the report by Pirola (1967) that premedication with intramuscular metoclopramide appeared to facilitate jejunal intubation. We also found intravenous administration to be helpful when passage of the tube through the pylorus was difficult, as did Harris, Harrington, and Beveridge (1968) in children. Increased gastric peristalsis with opening of the pylorus and dilatation of the duodenum was observed on the screen shortly after the intravenous injection of metoclopramide. This has been noted by radiological workers (Grivaux *et al*, 1964).

Pharyngeal anaesthesia was also helpful, but to a lesser extent. This premedication reduced nausea and retching, factors which tend to delay duodenal intubation. The antiemetic effect of metoclopramide may act similarly and synergistically with the effect on bowel motility.

REFERENCES

- Brandborg, L. L., Rubin, G. E., and Quinton, W. E. (1959). A multipurpose instrument for suction biopsy of the esophagus, stomach, small bowel, and colon. *Gastroenterology*, 37, 1-16.
- Grivaux, M., Cornet, A., and Wattez, E. (1964). Le 'métoclopramide' on radiologie digestive. *Sem. Hôp. Paris*, 40, 2338-2345.
- Handley, A. J. (1967). Metoclopramide in the prevention of post-operative nausea and vomiting. *Brit. J. clin. Pract.*, 21, 460-462.
- Harris, M. J., Harrington, G., and Beveridge, J. (1968). Modification to the technique for small bowel biopsy in children, including the use of metoclopramide. *Amer. J. Dis. Child.*, 115, 43-47.
- Jacoby, H. I., and Brodie, D. A. (1967). Gastrointestinal actions of 'metoclopramide'. *Gastroenterology*, 52, 676-684.
- Margieson, G. R., Sorby, W. A., and Williams, H. B. L. (1966). The action of 'metoclopramide' on gastric emptying: A radiological assessment. *Med. J. Aust.*, 2, 1272-1274.
- Pirola, R. C. (1967). Rapid duodenal intubation with metoclopramide. *Amer. J. dig. Dis.*, 12, 913-915.
- Tavernier, J., and Lacroix, A. (1966). Le test au metoclopramide per os en radiologie gastro-duodenale. *Sem. Hôp. Paris*, 42, 49-52.
- Trafford, J. A. P., Fisher, A. M. H., Marshall, S., and Douthwaite, A. H. (1967). Metaclopramide ('Maxolon')—a new anti-emetic. *Brit. J. clin. Pract.*, 21, 457-460.