Gut

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ACKNOWLEDGEMENT OF MANUSCRIPTS Manuscripts will only be acknowledged if an addressed postcard is enclosed.

ILLUSTRATIONS *Photographs* Unmounted photographs on glossy paper should be provided. Illustrations should not be inserted in the text but marked on the back with the figure numbers, title of paper and name of author. All photographs, graphs, diagrams should be referred to as figures and should be numbered consecutively in the text in Arabic numerals. The legends for illustrations should be typed on a separate sheet.

ETHICS Ethical aspects will be considered in the assessment of papers (see the Medical Research Council's publications on the ethics of human experimentation, and the World Medical Association's code of ethics, known as the Declaration of Helsinki (see *Br Med J* 1964; **2:** 177)).

SI UNITS All measurements except blood pressure are expressed in SI units. In tables, and illustrations values are given in SI units, but a conversion factor must be supplied. For general guidance on the International System of Units and some useful conversion factors, see *The SI for Health Professions* (WHO, 1977). **NB: Such conversion is the responsibility of the author.**

REFERENCES These follow the Vancouver system – that is, references numbered consecutively in the text and listed numerically with titles abbreviated in the style of *Index Medicus, Standard journal article* – (list all authors when six or less; when seven or more, list first three and add *et al*): James A, Joyce B, Harvey T. Effect of longterm cimetidine. *Gut* 1979; **20:** 123–4. **NB: Accurate punctuation is essential.**

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acid into the oesophagus, we were unable to clear the acid by injecting a few saline boluses into the oesophagus as Reynolds and colleagues had reported.[2-4] Instead, we found it necessary to inject a bicarbonate solution into the distal oesophagus to restore the oesophageal pH to normal. This finding should be expected, as we previously showed that to clear acid from the oesophagus a solution must have the ability to neutralise acid, a property that saline lacks.[14 15] Once acid is injected into the distal oesophagus, an acid oesophageal pH might persist for the remainder of the study if only saline boluses were injected into the oesophagus between test sequences. Because Reynolds and colleagues did not monitor the distal oesophageal pH, we do not know if the oesophageal pH was restored to normal between test sequences, and if indeed they were testing the effects of oesophageal acidification as they believed. We cannot explain the increase in LOS pressure with oesophageal acidification that was reported by Reynolds and colleagues, however, our findings indicate that this increase in LOS pressure was not caused by oesophageal acidification itself.

Supported, in part, by grants DK39208 and DK25731 from the National Institutes of Health. A preliminary communication of this work was abstracted in *Gastroenterology* 1988; **95**: 870, and presented at the meeting of the American Motility Society in Asilomar, California in October, 1988.

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LETTERS TO THE EDITOR

Influence of time of dinner on nocturnal gastric pH

SIR,—We read with interest the study by Duroux *et al*[1] on the differential effects of different times of dinner on nocturnal gastric pH. The most prominent aspect of this study lies in the potential therapeutic implications in patients with duodenal ulcer. Before embarking on controlled clinical trials aimed at verifying the benefit of early dinner in this disease, however, as proposed by the authors, certain considerations seem to be necessary.

It is true that meals are important determinants of circadian acidity changes as documented by 24 hour gastric pH profiles, but time dependent fluctuations occur in many gastrointestinal functions independently of food stimulation, and gastric acid secretion is one example of this. In contrast with the authors' statement that intragastric pH changes little in fasting subjects, a well defined circadian rhythm of gastric acidity with high rates during the evening and low ones in early morning has been shown in normal subjects and in men with active duodenal ulcer who were infused with a saline solution intravenously over a 24 hour span.[2] This pattern was not correlated with changes in plasma gastrin, because it is well known that plasma concentrations closely depend on meal intake.[3] Therefore Moore and Halberg[2] advised studying other variables, such as the mitotic rate and the receptivity to neurohormonal stimulation of gastric parietal cells, in order to understand the mechanisms of circadian rhythmicity of acid secretion. It is also likely, as suggested by the authors, that sleep affects fluctuations in nocturnal gastric acidity,[4,5] even though the mechanisms are at present unclear. All these factors, however, may either interact with or work independently of meals, which must only be considered as one of the possible variables which influence the complex phenomenon of gastric acid secretion, and this is particularly so when time dependent measurements of acidity are done.

The authors' explanation of the mechanism by which an early meal raises nocturnal intragastric pH is certainly speculative (as they admit) and needs to be confirmed in further experiments. There is, however, another critical point to be considered, and that is that their investigation was done in healthy volunteers. This implies the likelihood that their findings derived from a normal population cannot be transposed to duodenal ulcer patients, who have a postprandial acid secretory response and a circadian gastric acid secretion which greatly differ from those of healthy controls.[6,7] On the other hand, several pH metry studies[8,9] have already shown that the nocturnal pattern of gastric acidity is characterised by much lower pH levels in duodenal ulcer patients than in normal subjects and this difference is particularly evident in the early morning.[8] What is more striking is that the above findings were obtained in groups of duodenal ulcer patients who had dinner at 6 pm, which is the same time proposed by the authors in order to raise nocturnal gastric pH. In other words, the results by Duroux *et al*[1] are very interesting, but should be confirmed in patients with duodenal ulcers before proposing a simple early dinner as a valid means for treating ulcer disease.

V SAVARINO
G S MELA*
AND G CELLE
ISMI—Cattedra di Gastroenterologia and
**Clinica Medica R Università di Genova,*
Genova, Italy

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NOTES

Max Siurala Award 1990

Professor P J Scheuer has accepted the above award from the Finnish Society of Gastroenterology and will be giving the Max Siurala Lecture in Tampere, Finland in March 1990.

European Pancreatic Club

The 22nd annual meeting will be held from 15–17 October 1990 in Basel, Switzerland. Further information from Carita Frei, Secretary, Division of Gastroenterology, University Hospital, CH-4031, Basel, Switzerland.

XVth International Update on Liver Disease

To be held from 12-14 July 1990 at the Royal Free Hospital and School of Medicine, London. Further details from Professor Neil McIntyre, Academic Dept of Medicine, Royal Free Hospital, Pond Street, London NW3 (tel 01-794 0500, ext 3969).

Physiology and Pathophysiology of the Splanchnic Circulation

This FASEB summer research conference will be held from 22–27 July 1990. Information from The Federation of American Societies for Experimental Biology, Splanchnic Circulation Conference, 9650 Rockville Pike, Bethesda, Md.20814, USA.

International Symposium on the Pharmacotherapy of Gastrointestinal Motor Disorders

This symposium will be held from 2–4 September 1990 in Adelaide, South Australia. Information may be obtained from The Secretariat, Gastrointestinal Motility Symposium 1990, PO Box 153, Nairne, South Australia 5252.

Genetics of Gastrointestinal Disorders

This 1990 Clinical Genetics Conference will be held from 8–11 July 1990 in Dearborn, Michigan. Further information from Carol Blagowidow, March of Dimes Birth Defects Foundation National HQ, 1275 Mamaroneck Avenue, White Plains, NY 10605, USA.

XXIV International SMIER Congress. Endo 90: Infection, immunity, endoscopy

The above congress will be held from 20–22 September 1990, at the Brussels Congress Centre. Information may be obtained from Dr E de Koster, Gastroenterology Unit, University Hospital Brugmann, Place Van Gehuchten 4, B-1020 Brussels, Belgium.

6th World Congress in Ultrasound

To be held from 1–6 September 1991 in Copenhagen, Denmark. Details from the Congress Secretariat, Spadille Congress Service, Sommervej 3, DK-3100 Hornbaek, Denmark.