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The object of *Gut* is to publish original papers and reviews concerned with practice and research in the field of gastroenterology. The field is that of alimentary, hepatic, or pancreatic disease, and papers may cover the medical, surgical, radiological, or historical aspects. They may also deal with the basic sciences concerned with the alimentary tract, including experimental work. The report of a single case will be accepted only if it is of sufficient interest in relation to a wider field of research.

There will be a section devoted to short papers on laboratory and surgical techniques and methods of investigation where these are not part of a lesser survey.

**COMMUNICATIONS** Papers should be addressed to the Editor, *Gut*, B.M.A. House, Tavistock Square, London, W.C.1. Papers are accepted only on the understanding that they are not published elsewhere without previous sanction of the Editorial Board. They should be in double-spaced typewriting on one side of the paper only. On the paper the name of the author should appear with initials (or distinguishing Christian name) only, and the name and address of the hospital or laboratory where the work was performed. A definition of the position held by each of the authors in the hospital or laboratory should be stated in a covering letter to the Editor. Communications should be kept short, and illustrations should be included when necessary; coloured illustrations are allowed only if monochrome will not satisfactorily demonstrate the condition. It is not desirable that results should be shown both as tables and graphs.

**ILLUSTRATIONS** Diagrams should be drawn in indian ink on white paper, Bristol board, or blue-squared paper. The legends for illustrations should be typed on a separate sheet and numbered to conform with the relevant illustrations. Photographs and photomicrographs should be on glossy paper, unmounted. TABLES should not be included in the body of the text, but should be typed on a separate sheet.

**ABBREVIATIONS** In general, symbols and abbreviations should be those used by British Chemical and Physiological Abstracts. In any paper concerning electrolyte metabolism, it is desirable that data be calculated as m-equiv/l. as well as (or alternatively to) mg/100 ml.

**REFERENCES** These should be made by inserting the name of the author followed by year of publication in brackets. At the end of the paper, references should be arranged in alphabetical order of authors' names. Such references should give author's name, followed by initials and year of publication in brackets, *the title of the article quoted*, the name of the journal in which the article appeared, the volume number in arabic numerals, followed by the numbers of first and last pages of the article. Abbreviations are according to *World Medical Periodicals* (published by B.M.A. for World Medical Association), thus: Chandler, G. N., Cameron, A. D., Nunn, A. H., and Street, D. F. (1960). Early investigations of haematemesis. *Gut*, 1, 6-13.

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# GUT

*The Journal of The British Society of Gastroenterology*

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## Signposts

**BACTERIA AND THE AETIOLOGY OF CANCER OF THE LARGE BOWEL** (page 334) A most important contribution which may provide a clue to the aetiology of cancer of the colon and explain its geographical variations in incidence.

**POSTMORTEM SURVEY OF DIVERTICULAR DISEASE OF THE COLON** (page 336) Part I is a critical study of the incidence of diverticular disease and its correlation with symptoms, and possible aetiological factors. There was no association with obesity, hypertension, gallstones, or length of colon. Evidence of past or present inflammatory changes were found in 12% of all cases. In Part II (page 344), from a postmortem study of 200 colons, it is suggested that a thickness of 1.8 mm is the dividing line between the bowel of diverticular disease and the normal. It is concluded that the primary change is a functional one of increased pressures in the sigmoid colon without anatomical change. This increased pressure may subsequently cause either diverticula or muscle change (as a result of work hypertrophy) or in most cases, both.

**ORGANIZATION OF THE MUSCULAR WALL OF THE HUMAN COLON** (page 352) A detailed anatomical study bringing out many points not clearly appreciated before in relation to the longitudinal and circular muscle of the colon.

**THE RELATIONSHIP OF ANAEMIA AND HYPOPROTEINAEMIA TO THE FUNCTIONAL AND STRUCTURAL CHANGES IN THE SMALL BOWEL IN HOOKWORM DISEASE** (page 360) Intestinal functional or structural changes had no association with the severity of anaemia, or the deficiency of iron, vitamin B<sub>12</sub>, and folic acid, but a statistically significant association was noted between the absorption test abnormalities and the severity of hypoalbuminaemia. Malnutrition associated with protein deficiency may be the chief cause of hypoalbuminaemia in hookworm disease.

**GASTROENTEROSTOMY AND VAGOTOMY FOR CHRONIC DUODENAL ULCER** (page 366) The clinical and metabolic results of vagotomy and gastroenterostomy in a series of

patients treated for chronic duodenal ulcer are presented. The operation has been associated with a disturbingly high incidence of undesirable sequelae; even after a relatively short period of follow up metabolic derangements are apparent.

**EVALUATION AND SIMPLE MODIFICATION OF THE GASTRIN TEST** (page 375) Secretions are collected for 40 minutes and the peak 20-minute output is used as the basis for calculating maximal secretion. In this form, the intravenous test invokes a response approximately 85% of that which follows an intravenous infusion.

**STUDIES ON THE G CELLS OF THE PYLORIC MUCOSA, THE PROBABLE SITE OF GASTRIN SECRETION** (page 379) A type of endocrine cell, the G cell, has been detected in the antropyloric mucosa of man and several mammals. The distribution of the G cells in different zones of the pyloric glands corresponds strictly to the distribution of the hormone gastrin, suggesting that such a protein hormone may be secreted by G cells.

**PYOGENIC LIVER ABSCESS** (page 389) A retrospective analysis of 48 patients with liver abscess. In view of the high mortality in cases of pyogenic liver abscess, certain aids to diagnosis are stressed. Drainage offers the only chance of survival but accurate localization of the abscess by isotopic or ultrasonic scanning is needed.

**THE ORIGIN OF FAECAL FAT** (page 400) It is suggested that the quality of faecal fat in the normal subject is largely determined by the addition of non-dietary fat derived from intestinal desquamation and bacterial reduction of unsaturated fatty acids in the colon.

**EVIDENCE FOR THE RELEASE OF GASTRIC FIBRINOLYTIC ACTIVITY INTO PERIPHERAL BLOOD** (page 404) The stomach has not previously been thought to be a source of fibrinolytic activity. In these studies digital gastric compression at laparotomy has been followed by free plasmin demonstrable in peripheral veins and by a progressive shortening of the euglobulin lysis time.

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## The April 1969 Issue

### THE APRIL 1969 ISSUE CONTAINS THE FOLLOWING PAPERS

#### Signposts

Bilirubin metabolism BARBARA H. BILLING and MARTIN BLACK

Skin lesions in ulcerative colitis M. L. JOHNSON and H. T. H. WILSON

Osteomyelitis complicating regional enteritis M. J. GOLDSTEIN, K. NASR, H. C. SINGER, J. G. D. ANDERSON, and J. B. KIRSNER

Small intestinal histochemical and histological changes in ulcerative colitis N. JANKEY and L. A. PRICE

Aetiology of ulcerative colitis. A review of past and present hypotheses F. T. DE DOMBAL, P. R. J. BURCH, and G. WATKINSON

Aetiology of ulcerative colitis. A new hypothesis P. R. J. BURCH, F. T. DE DOMBAL, and G. WATKINSON

Sclerodermatous involvement of the stomach and the small and large bowel R. D. G. PEACHEY, B. CREAMER, and J. W. PIERCE

Role of parasites in the pathogenesis of intestinal malabsorption in hookworm disease B. N. TANDON, R. K. KOHLI, A. K. SARAYA, K. RAMACHANDRAN, and OM PRAKASH

Clinical trial of deglycyrrhizinized liquorice in gastric ulcer A. G. G. TURPIE, J. RUNCIE, and T. J. THOMSON

Peptic activity after the administration of Pentagastrin and in gastroduodenal disease M. H. PRITCHARD and A. M. CONNELL

Differences between males and females in the Hollander insulin test J. SPENCER, G. P. BURNS, F. C. Y. CHENG, A. G. COX, and R. B. WELBOURN

Lactose malabsorption and postgastrectomy milk intolerance, dumping, and diarrhoea JOHN R. CONDON, PETER WESTERHOLM, and NORMAN C. TANNER

Treatment of overt and subclinical malabsorption in Haiti F. A. KLIPSTEIN, I. M. SAMLOFF, G. SMARTH, and E. A. SCHENK

Transduodenal endoscopy SEAN O'BEIRN

#### Notes and activities

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BRITISH MEDICAL ASSOCIATION, TAVISTOCK SQUARE W.C.1. price 18s. 6d.

and distal colon in all the three groups in response to the meal. The response in patients with total gastrectomy was equal to the other two groups, and was greater in some respects in the sigmoid. On the other hand, propulsive activity was detected in only one patient. These findings indicate that neither antral gastrin nor gastric acid are required for the colonic motor response to a meal and suggest that the stimulus for this response may be the entry of food into the upper small intestine.

<sup>1</sup>Arfwidsson, S. (1964). *Acta chir. scand.* (Suppl.), 342.

<sup>2</sup>Chaudhary, N. A., and Truelove, S. C. (1961). *Gastroenterology*, 40, 1.

#### SPLENIC BLOOD FLOW AND RESISTANCE IN PATIENTS WITH CIRRHOSIS BEFORE AND AFTER PORTACAVAL ANASTOMOSIS

N. GITLIN, G. R. GRAHAM, L. KREEL, H. S. WILLIAMS, AND S. SHERLOCK (*Medical Unit, Royal Free Hospital, London*)<sup>1</sup> Splenic resistance and splenic blood flow were measured in 37 patients with portal hypertension of various aetiologies. In six of these patients measurements were made before and after end-to-side portacaval anastomosis. Similar studies were performed on a further group of six patients who had had a portacaval shunt one to 10 years previously. Splenic resistance and blood flow were measured by direct arterial catheterization (Seldinger technique), percutaneous splenic venous puncture, and the intraarterial injection of radioactive Xenon<sup>133</sup> dissolved in saline to measure splenic blood flow. Arterial pressure tracings and coeliac axis angiography were also performed to show the splenic and hepatic arterial patterns and size. In all 37 patients the total splenic blood flow was increased but in all of them the pressure gradient from the splenic artery to the splenic pulp (splenic resistance) was reduced. Relief of the portal hypertension by a patent shunt was followed by decrease in splenic size but surprisingly a further increase in the total splenic blood flow. Splenic resistance decreased slightly. Thus it appears that the elevated portal vein pressure in certain cases of cirrhosis is attributable not only to intrahepatic obstruction in the cirrhotic liver, *ie*, 'backward flow theory', but also in part to a decreased splenic resistance and to an increased splenic blood flow into the portal vein ('forward flow theory'). This increased flow and reduced resistance does not appear to be peculiar to the splenic circulation but is probably part of a generalized vasodilatation of the body vasculature in the cirrhotic patient.

<sup>1</sup>Supported by the Ingram Trust.

#### CONTROL OF CHRONIC PORTAL-SYSTEMIC ENCEPHALOPATHY BY LACTULOSE

S. G. ELKINGTON, M. H. FLOCH, AND H. O. CONN (*V.A. Hospital, West Haven, Conn., USA*), introduced by B. CREAMER The oral administration of lactulose has recently been proposed as therapy for chronic portal-systemic encephalopathy.<sup>1</sup> A synthetic disaccharide, lactulose, is neither absorbed nor hydrolysed in the small intestine, but is metabolized by colonic bacteria. The resulting acidification of the colonic contents reduces

## Notes and activities

### NEW BOOKS

*Clinical Investigation of Gastrointestinal Function* by Ian A. D. Bouchier. This is a small book which will meet a very real need and does so extremely well. It brings together the practical details and assessment of over 200 specialized tests relating to the alimentary system, liver, and pancreas. Whenever appropriate, references are given to key publications. It is a book which will be in constant demand in every hospital library, and a copy could be kept, with advantage, in the ward office for use by junior staff. Published by Blackwell Scientific Publications. Price £1 10s.

*L'Organisation Mondiale de Gastroenterologie* (OMGE) The organization's twelfth bulletin once again gives a picture of world-wide gastroenterological activity, highlighting the conferences recently held or planned. Details of post-graduate courses in gastroenterology are given and there is a useful list of national societies and their officers.

### CONFERENCE ON GASTROENTEROLOGY

The eleventh *Pan American Congress of Gastroenterology* will be held in Puerto Rico from 26 October to 1 November 1969. All information may be obtained from the Secretary General, 1475 Calle Wilson, Santurce, Puerto Rico 00907.

absorption of toxic nitrogenous substances, including ammonia, from the bowel.

Seven patients with cirrhosis and chronic portal-systemic encephalopathy have been studied in a double-blind clinical trial, using sorbitol, an osmotic cathartic which does not cause faecal acidification, as a control. Consecutive periods of study, six to 25 days in length, comprised (1) no treatment, (2) lactulose or sorbitol administration, (3) no treatment, and (4) sorbitol or lactulose administration. Each patient underwent daily neurological examination, thrice-weekly fasting arterial blood ammonia and pH estimations, biweekly EEG examination and quantitative stool cultures, and weekly liver function tests. Five patients benefited from lactulose; in two the response was dramatic. In all five patients treatment with lactulose reduced stool pH and arterial ammonia values and prevented portal-systemic encephalopathy, while sorbitol had no such effects. In two less severely affected patients no benefit was demonstrated. Lactulose also controlled chronic portal-systemic encephalopathy effectively in long-term studies (lasting up to 10 months) in seven patients, enabling neomycin to be discontinued and the dietary protein intake to be doubled.

<sup>1</sup>Bircher, J., Müller, J., Guggenheim, P., and Haemmerli, U. P. (1966). *Lancet*, 1, 890.