

# Gastroenterological Society of Australia

The seventh annual general meeting of the Gastroenterological Society of Australia was held at the Royal Children's Hospital, Melbourne, on 3 and 4 May 1965.

The following Office Bearers and Members of Council were appointed for two years:—

President	Dr. W. M. Irwin
President-elect	Dr. P. Parsons
Past President	Dr. S. J. M. Goulston
Honorary Secretary	Dr. D. J. Fone
Honorary Treasurer	Dr. Alan Kerr Grant
	Sir William Morrow
	Dr. B. P. Billington
	Dr. A. Skyring
	Mr. E. S. R. Hughes.

After the business meeting a scientific session was held at which the following papers were presented—

## VALUE OF OESOPHAGEAL MOTILITY STUDIES IN DISORDERS OF THE OESOPHAGUS

J. HANSKY In more than 50 patients with suspected disorder of the oesophagus pressures were recorded with the use of open-ended tubes and external transducers. Motility patterns from normal patients and those with various oesophageal disorders were presented and discussed.

In normal subjects the pattern of response to deglutition was remarkably constant, with relaxation of the two sphincters and the orderly passage of the peristaltic wave down the oesophagus. By contrast, characteristic abnormal patterns of motility were observed in patients with local or diffuse spasm, achalasia, and scleroderma.

## MOTILITY OF THE COLON IN FUNCTIONAL AND ORGANIC INTESTINAL DISORDERS

D. J. DELLER and A. G. WANGEL The motility of the colon was studied in patients with functional and organic intestinal disorders. Intraluminal catheters were used to record pressure changes from the distal colon and the radiotelemetering capsule from the proximal colon. There were marked differences in the motility traces of the distal colon in diarrhoea and constipation. Patients with diarrhoea had reduced motor activity, whereas patients with constipation had increased activity. This paradoxical motility was evident irrespective of the cause of the alimentary symptoms. Motility traces from patients with functional diarrhoea were similar to traces from patients with organic lesions of the intestine resulting in diarrhoea. In addition hypermotility was equally evident in the groups with organic constipation and the spastic colon syndrome.

There were a small number of exceptions to these generalizations. In hyperthyroidism motor activity was

increased, whereas in hypothyroidism with constipation the motor activity was decreased. Treatment with thyroxine resulted in return to normal bowel habits and motility of the colon. Another exception was a patient with diarrhoea following ureto-colic anastomosis in whom a high level of motor activity was recorded.

## DOUBLE BLIND STUDY OF BIOGASTRONE (CARBENOXOLONE) IN THE TREATMENT OF GASTRIC ULCER

W. R. MIDDLETON, A. COOKE, and A. SKYRING A double blind clinical trial of Biogastrone (carbenoxolone) was performed on in-patients with radiological assessment of gastric ulcer width, depth and cross sectional area at the beginning and end of a three week period of therapy with either Biogastrone (100 mg. three times a day) or an inert placebo. Thirty-one patients with gastric ulcer were treated. Fifteen received Biogastrone. The ulcer crater disappeared radiologically in four (27%) and the average reduction in size of the ulcer was 62%. Of the 16 control patients the ulcer disappeared radiologically in five (31%) and the average reduction in size of the ulcer was 72%. There was no difference between the groups with ulcers of any size.

It was suggested that Biogastrone adds nothing to a regime of bed rest and avoidance of smoking in the treatment of gastric ulcers. The great healing potential of benign gastric ulcers of all sizes at bed rest was confirmed.

## VAGOTOMY IN THE SURGERY OF PEPTIC ULCER

ARNOLD MANN The physiological basis for the operation of vagotomy and gastric drainage for duodenal ulceration was reviewed. Analysis of 35 cases was presented.

## PROTEIN-LOSING GASTROENTEROPATHY

H. MARVIN POLLARD and ARTHUR B. FRENCH Understanding of the syndrome of low serum protein and oedema due to gastrointestinal protein loss has passed rapidly from Albright's concept of 'hypercatabolic hypoproteinaemia' through that of 'protein-losing gastroenteropathy' to a concept including a series of diseases some localized, some systemic, which have this syndrome in common. The common pathological features of these diseases are inflammation and/or lymphatic obstruction of the mucosa and submucosa or obstruction of the larger lymphatic channels. Some of these diseases,

such as gastritis and regional enteritis, are well known, but the significance of primary disease of the abdominal lymphatics is only now becoming evident. Use of diagnostic tools, including gastrointestinal radiographs, x-ray lymphangiograms, small intestinal biopsy, <sup>131</sup>I albumin half life, and <sup>131</sup>I PVP losses into the gastrointestinal tract were illustrated. With these diagnostic tools it is possible to define the extent of loss of protein into the gastrointestinal tract, to determine the cause and to plan appropriate management. Usefulness and limitations of management were discussed. Low fat diet is often beneficial and its usefulness in an individual patient is somewhat predictable on the basis of lymphangiographic findings.

KINETICS OF THE JEJUNAL EPITHELIAL CELLS OF  
THE RAT INFECTED BY THE NEMATODE  
*NIPPOSTRONGYLUS BRASILIENSIS*

L. E. A. SYMONS Tritiated thymidine was used to study the kinetics of the epithelial cells in the crypts of Leiberkuhn of the jejunum of the rat infected by the nematode *N. brasiliensis*. There was a more rapid proliferation of these cells due to shorter G<sub>1</sub> and synthetic phases of the progenitor cycle. This was associated with a faster movement of the epithelial cells towards the apices of the villi. The relationships between the shorter progenitor cycle in the crypts and the stunted villi typical of intestinal disease was discussed.

DOUBLE-BLIND STUDY OF TRASYLOL  
IN THE TREATMENT OF ACUTE PANCREATITIS

A. SINGER, P. TORNYA, and A. SKYRING The effect of Trasylol (an antitryptic agent) in the treatment of acute pancreatitis of all grades of severity was assessed in a double-blind study. Twenty-three episodes of pancreatitis were treated, 11 with Trasylol and 12 with the placebo (normal saline). Three of the Trasylol-treated and two of the control patients died. The response of the surviving patients was classified according to their response to the initial dose of the 'drug', their general clinical improvement, the duration of intravenous therapy and intragastric suction and the frequency of complications. Overall results of the trial show that the Trasylol-treated patients did no better than the control-treated and indeed may have fared worse. Although more Trasylol-treated patients had severe pancreatitis there was no difference in outcome at any grade of severity. The poor result with Trasylol could not be attributed to delay in starting therapy or age of the patient.

LIVER DISEASE IN THE TERRITORY OF  
PAPUA AND NEW GUINEA

C. R. B. BLACKBURN, V. J. MCGOVERN, W. ARTER, A. RADFORD, T. MURRELL, and P. BURCHETT An epidemiological survey was conducted in the Highlands District of the Territory of Papua and New Guinea in an effort to define the incidence and distribution of liver disease. All available members of 14 selected villages, totalling some 2,000 persons, were examined for hepatosplenomegaly and other evidence of liver disease.

Hepatomegaly was recorded in approximately 15 to 35% of those examined. Other clinical determinants of liver disease were infrequently observed in the field.

Liver biopsy was performed in 60 persons. Focal pericholangitis was the most notable histological feature, although it varied considerably in severity from mild periportal cellular infiltration to acute necrotizing pericholangitis. In some cases chronicity was indicated by sclerosing pericholangitis with fibrous tissue deposition around portal tracts. In no case was a fully established cirrhosis observed.

USE OF THE ELECTRON MICROSCOPE  
IN THE DIAGNOSIS OF HUMAN LIVER DISEASE

M. E. C. THORPE and C. D. SHOREY Liver tissue was obtained from 18 patients by percutaneous biopsy. Several small pieces (1mm<sup>2</sup>.) were removed immediately and placed in ice-cold OSO<sub>4</sub>, the remainder of the biopsy sent for routine histology. After four hours the tissue was dehydrated, embedded in araldite, sectioned, stained with uranyl nitrate, and viewed with the electron microscope.

The results were discussed comparing the normal to the abnormal appearance of the liver cell under the electron microscope and the significance of these alterations as related to other tests of liver function.

THYROTOXICOSIS ASSOCIATED WITH  
ACTIVE CHRONIC HEPATITIS:  
IMMUNOLOGICAL ASPECTS

GIDEON GOLDSTEIN An interesting and perhaps significant association between active chronic hepatitis and thyrotoxicosis was described in a 16-year-old boy. Thyrotoxicosis had commenced in 1962 and was then controlled by antithyroid drugs. In October 1964, he developed persisting hepatitis and steroids were required. The disease relapsed when these were discontinued and thyrotoxicosis again became active. The family history was of relevance with thyrotoxicosis in the mother. Clinical examination and laboratory tests confirmed the diagnosis of severe hepatitis and thyrotoxicosis. Liver biopsy showed active chronic hepatitis with a heavy lymphocytic infiltration. The serological findings were of extreme interest in that there was marked elevation of gamma globulin and there were positive autoantibodies by the autoimmune complement fixation method and the Rose-Waaler test.

It could be that the hepatitis, thyrotoxicosis, exophthalmos, and positive autoantibody reactions were unrelated and coincidental, but the recent work on the apparent autoantibody nature of long-acting thyroid stimulator, which is characterized as a gamma globulin, raises the possibility that this patient's entire illness was determined by immunological mechanisms.

STUDIES OF COPPER METABOLISM IN THE RAT:  
1 THE INTESTINAL ABSORPTION OF  
<sup>64</sup>Cu-LABELLED COPPER

S. P. MISTILIS and P. A. FARRER The mechanism of absorption of exogenous copper is incompletely under-

stood and even less is known about the possible absorption of endogenous biliary copper and the magnitude of such an enterohepatic circulation.

These studies were designed (1) to determine the comparative intestinal absorption of exogenous ionic cupric acetate and chelated cupric-E.D.T.A. in a dose-range of 0.50  $\mu\text{g.}$  to 1,000  $\mu\text{g.}$  copper, and (2) to determine the degree of intestinal re-absorption of endogenous bile-copper obtained from 'donor' animals with external biliary fistulae.

In the dose range of 0.50  $\mu\text{g.}$  to 10  $\mu\text{g.}$  of intrapylorically injected exogenous copper, a relatively constant fraction (40%-50%) of the dose is absorbed in a 24-hour period. Only about 10% of the copper is absorbed when larger doses (200  $\mu\text{g.}$  to 1,000  $\mu\text{g.}$ ) are given.

A significantly smaller fraction of the dose is absorbed (about 12%) when bile copper is given intrapylorically in a dose range of 0.50  $\mu\text{g.}$  to 10  $\mu\text{g.}$  copper.

It was concluded that these findings indicated that with increasing doses of exogenous copper there is progressive reduction in the fractional absorption. Endogenous biliary copper is poorly absorbed even in small doses and this may be related to the chemical nature of copper in the bile.

#### STUDIES OF COPPER METABOLISM IN THE RAT

##### 2 THE BILIARY EXCRETION OF

##### $^{64}\text{Cu}$ -LABELLED COPPER

P. A. FARRER and S. P. MISTILIS Investigations were designed (1) to determine the biliary excretion of  $^{64}\text{Cu}$ -labelled exogenous copper given as ionic cupricacetate and as chelated cupric-E.D.T.A. in an intravenous dose range of 0.25  $\mu\text{g.}$  to 100  $\mu\text{g.}$  Cu; (2) to characterize the nature of copper excreted in the bile, and, (3) to assess the hepatic uptake and biliary output of bile-copper and caeruloplasmin-copper following intrapyloric, and intravenous administration, respectively.

The results suggested that a significant fraction of the copper normally excreted in the bile is protein-bound, and that a specific protein is involved. The relative stability of this moiety to acid hydrolysis would explain both the poor intestinal absorption of biliary copper, and the normal extent to which the amount absorbed is re-circulated. The specific copper protein in bile is unlikely to be caeruloplasmin, since on the evidence obtained, caeruloplasmin copper could not contribute appreciably to the total copper excreted in the bile.

#### ADMINISTRATION OF CORTICOSTEROID DRUGS IN THE DIFFERENTIATION OF THE CAUSE OF JAUNDICE

D. J. FONE The administration of corticosteroid drugs has been advocated as an aid in the diagnosis of the cause of obstructive jaundice. To investigate this steroid drugs were given to 19 patients with jaundice. Ten had hepatitis with some features of bile retention. All 10 showed a rapid fall in the serum bilirubin concentration to less than 40% of the pre-treatment level within a week. Five patients with extrahepatic duct obstruction showed either no response or a small initial decrease in bilirubin concentration which was not sustained. No significant

response occurred in three patients with pericholangitis or one with chlorpromazine jaundice. It was concluded that a rapid and sustained fall in bilirubin concentration usually occurred in hepatitis and may be of diagnostic help. If no significant response occurred hepatitis was unlikely to be the cause of the jaundice.

#### USE OF PERCUTANEOUS TRANSHEPATIC CHOLANGIOGRAPHY IN THE DIAGNOSIS OF OBSTRUCTIVE JAUNDICE

W. S. C. HARE and D. J. FONE Percutaneous transhepatic cholangiography was performed in 12 patients with obstructive jaundice. In eight satisfactory cholangiograms were obtained showing obstruction to the extrahepatic bile duct. Six of these were due to carcinoma and two to calculus. It was not always possible to be certain of the nature of the obstruction from the cholangiographic appearances. In four patients there was failure to cannulate a bile duct. In three of these the obstruction was intrahepatic due to chronic pericholangitis but in one it was due to extrahepatic obstruction by carcinoma. Some biliary leakage into the peritoneal cavity occurred in two but did not lead to serious consequences. It was concluded that this technique was of use in the investigation of obstructive jaundice if a satisfactory cholangiogram is obtained. If no cholangiogram can be obtained this does not conclusively mean that there is no extrahepatic obstruction.

#### ULCERATIVE COLITIS, CHRONIC PANCREATITIS, AND STEATORRHOEA

J. G. RANKIN and A. G. SANDISON Chronic pancreatitis and abnormalities of pancreatic exocrine function have been described in association with ulcerative colitis. However, there have been no reports in which such associated pancreatic abnormalities have either caused steatorrhea or been of clinical importance.

In the present paper a 22-year-old man was discussed who presented with severe bloody diarrhoea, weight loss, anaemia, and oedema. His initial clinical and investigative findings suggested a diagnosis of non-specific enterocolitis with steatorrhea. However, investigations failed to demonstrate small bowel disease and instead revealed a severe reduction in pancreatic exocrine secretion, consistent with a diagnosis of chronic pancreatitis. At operation for subtotal colectomy and ileorectal anastomosis the pancreas was observed to be macroscopically abnormal. The small bowel appeared normal throughout. Steatorrhea has not decreased in the months since operation.

In discussion, difficulties in diagnosis and management were considered.

#### ISCHAEMIC ENTERO-COLITIS

V. J. MCGOVERN and S. J. M. GOULSTON The paper concerned a study of 33 examples of this type of enterocolitis encountered over a period of 14 years, and regarded as a distinct clinico-pathological entity. Vascular insuffi-

ciency seemed to predispose to it, and it was often precipitated by hypotension.

The appearance of the bowel often suggested infarction, but there was no evidence of mesenteric thrombosis either arterial or venous. Microscopically the main pathological features were haemorrhage into the mucosa, thrombosis of mucosal capillaries and phlebitis of sub-mucosal vessels, moderate leucocytic infiltration and necrosis of the mucosa, followed by ulceration.

In many cases there were zonal necroses of the liver and focal tubular necroses in the kidney, plus lesions in the heart and adrenals of the type seen in hypotension. Atherosclerosis of the abdominal aorta of a severe degree was often present.

Clinical features included a male predominance, older age group incidence, and primary cardiac or renal disease. Four cases occurred following and as a result of operations. Two cases were caused by hypotensive drug administration. Hypotension appeared to be the important initiating factor, the onset was sudden, and the outstanding symptom was severe diarrhoea. Abdominal

pain and bloody motions occurred infrequently. It was the primary cause of death in 16 patients, and contributed to death in 15 others. Two survived who were submitted to local bowel resection.

This condition must be differentiated from ulcerative colitis, colitis necroticans, pseudomembranous enterocolitis, and acute angitis of the bowel.

At a clinical meeting the following cases were presented for discussion—

MEGA OESOPHAGUS IN FAMILIAL DYSAUTONOMIA Valerie Burke and Charlotte Anderson; SIMPLE OESOPHAGEAL CAST Andrew C. Newell; STEATORRHOEA IN LIVER DISEASE Valerie Burke and Charlotte Anderson; PANCREATIC ACHYLIA AND NEUTROPENIA Charlotte Anderson; PANCREATICO-DUODENECTOMY FOR LEIOMYOSARCOMA OF DUODENUM G. W. Sinclair; SECONDARY DISACCHARIDASE DEFICIENCY AND PERSISTENT DIARRHOEA IN INFANCY Valerie Burke and Charlotte Anderson; CHRONIC ABDOMINAL PAIN—A CHALLENGE TO DIAGNOSIS I. J. Wood; A CASE OF THE BASSER-KORNZWEIG SYNDROME R. R. W. Townley and Charlotte Anderson.

## The April 1966 Issue

### THE APRIL 1966 ISSUE CONTAINS THE FOLLOWING PAPERS

- Electron-microscope evidence for intramicrovillous fat absorption by the small intestinal epithelium of rats MARGOT SHINER
- Fat absorption in pancreatic deficiency in rats J. MASAREI and W. J. SIMMONDS
- Lack of gamma A-immunoglobulin in serum of patients with steatorrhoea P. A. CRABBÉ and J. F. HEREMANS
- Appearances of the jejunal mucosa in acute tropical sprue in Singapore N. W. J. ENGLAND and W. O'BRIEN
- Lymphoreticular dysfunction in idiopathic steatorrhoea C. F. MCCARTHY, I. D. FRASER, K. T. EVANS, and A. E. READ
- Changes in the villous pattern of the human jejunum associated with heavy radiation damage GEORGE WIERNIK
- Primary malabsorption following extreme attempts to lose weight FRED E. PITTMAN
- Use of polyethylene glycol and phenol red as unabsorbed indicators for intestinal absorption studies in man HAROLD P. SCHEDL
- Percutaneous cholangiography in the management of biliary stricture J. G. WALKER, W. B. YOUNG, PHYLLIS GEORGE, and SHEILA SHERLOCK
- Injection studies of the splenic vasculature in portal hypertension FEDERICO MANENTI and ROGER WILLIAMS
- Corticosteroids and corticotrophin in the treatment of Crohn's disease J. HOWEL JONES and J. E. LENNARD-JONES
- Incidence and coincidence of hiatus hernia RONALD B. PRIDIE
- Internal anal sphincterotomy as an out-patient operation H. R. MAGEE and H. R. THOMPSON
- Adenomyoma in the pylorus I. JANOTA and P. G. SMITH
- Propanthelene as an agent for medical vagotomy R. G. CHECKETTS, I. E. GILLESPIE, and A. W. KAY
- Biopsy of the peritoneum M. POLAK

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