ANNUAL MEETING OF THE BRITISH SOCIETY OF GASTROENTEROLOGY

The 1959 meeting of the Society was held in Belfast on November 6 and 7 with Professor H. W. Rodgers as President and Professor R. B. Welbourn as the local secretary. It was a notable meeting on account of the number of important decisions taken in relation to the Society’s affairs, also for the excellence of the scientific communications and the high standard of discussion.

It was decided that the time had come for the size of the Society to be increased. Honorary members should be increased from five to 10, ordinary membership should be increased from 65 to 100, and no definite limit should be placed on the number of associate members who should be elected from younger physicians, surgeons, and others engaged in research or interested in gastrointestinal problems.

The second major decision was to publish a journal to be entitled Gut (The Journal of the British Society of Gastroenterology). Arrangements had been made with the British Medical Association to enable this to be published as one of their specialist journals.

The following were elected as full members: Alan Hunt, William Burnett, T. J. Butler, T. S. Heslop, Douglas Clark, Peter Ingram, A. Elliott Smith, Nelson Coghill, W. T. Irvine, B. C. Morson, T. L. Kennedy, and H. Daintree Johnson.


The annual dinner was held at Queen’s University, and afterwards travel photographs were shown.

On the Saturday afternoon after the meeting a fine selection of clinical rarities was presented by the staff of the hospital.

SCIENTIFIC MEETING

EARLY DIAGNOSIS OF THE CAUSE OF HAEEMATEMESIS

G. N. Chandler reported 102 patients admitted as emergencies for haematemesis and melaena who had been studied in the acute stage of the illness by a combination of special investigations. Immediate gastric intubation, with overnight hourly pH estimations, was followed by gastroscopy the next morning and in the after-noon a barium meal was given in the ward and radiographs taken. In a high proportion of patients (80%) a correct early diagnosis was achieved by these combined procedures, which proved to be safe, informative, and helpful in the management of the individual patient. (This paper is published in full on page 6.)

During the brisk discussion that followed Watkinson confirmed the value of early barium meal examination in the ward. Norman Tanner stressed the value of gastroscopy and pointed out that the finding of atrophy of the gastric mucosa was important evidence against a duodenal ulcer being present, and underlined the usefulness of the extra information which can be obtained by distending the fundus with air and then slowly withdrawing the gastroscope; this may enable the presence of a hiatus hernia, varices, or a linear laceration (Mallory-Weiss syndrome) to be detected. He stated that provided the blood volume was restored by blood transfusion it was perfectly safe for the patient to be radiographed in a standing position.

CHOLEDOSCOPY

A. Nicholson reported on 148 examinations made with a special endoscope designed for looking up the common bile duct. Views were shown of the ampullary region at one end and the hepatic ducts at the other. The technique had been of value in demonstrating the presence of stones and cholangitis. No peristaltic activity had been noted.

CLINICAL AND LABORATORY CONSIDERATIONS IN THE TREATMENT OF CHRONIC PanCREATIC DISEASE

O. Fitzgerald, P. Fitzgerald, and J. Fennelly discussed the combination of upper abdominal pain with acute exacerbations and fat intolerance, and it was noted that 15% of the patients had had evidence of jaundice not always with stone; unlike the American series only 5% had been alcoholics. Vitamin A absorption was decreased and this might help in diagnosis. With the secretin pancreozymin test confirmatory evidence was found in 60% but both false positive and false negative results were sometimes recorded. Stenosis of the sphincter of Oddi was an important factor in some cases, and in one patient, a young neurotic girl, a papilloma in the sphincter had been discovered. Surgical treatment of chronic pancreatitis was discussed and the various possible measures reviewed. It was considered that pancreatico- tomomy was very seldom needed and sphincterotomy had usually been performed.
Pancreatic Secretion in Response to Food following Gastrectomy

T. J. Butler reported an elegant and painstaking study on intubation tests before and after Billroth I partial gastrectomy. Fifty patients had two tests before and two after operation, as follows: (a) Duodenal meal before operation, (b) jejunal meal before operation, (c) duodenal meal after gastrectomy, (d) jejunal meal after gastrectomy. Comparison of (c) with (a) showed a reduced output of all constituents to two-thirds—three-quarters of pre-operative levels. Comparison of (d) with (b) indicated the type of response that would occur in Polya patients. After gastrectomy, when food enters the jejunum directly, the pancreas continues to secrete but only at its normal resting level. This, however, is greater after gastrectomy than before. Comparison of studies of patients with vagotomy alone showed that the modification of the pancreatic response seen after gastrectomy is related to the co-incident vagotomy.

During the discussion on these two papers Howat referred to the possibility of codeine being a factor in the production of pancreatitis as it may cause spasm of the sphincter of Oddi. In some cases a background of migraine may lead to the continued use of tab. codeine co.

Symposium: "Hormones and the Alimentary Tract"

W. B. Henbest, by invitation, gave a most lucid exposition on the chemical background of steroid metabolism. The speaker had thoughtfully provided the audience with a photostat copy of a map showing the pathways of steroid metabolism. This was likened to a map of the London underground service with steroid rings taking the place of stations. The chemical inter-relations of bile acids—chol, cortis, aldosterone, progesterone, and medrone—were demonstrated, and this formed a necessary and most interesting background to the subsequent contributions on steroids.

The Hormone Excretion during Prolonged A.C.T.H. Administration in Patients with Ulcerative Colitis and Enterocolitis

W. Sircus, W. I. Card, J. B. Brown, G. P. Crean, K. Fotherby, and J. A. Loraine reported observations on urinary gonadotrophins, oestrogens, 17-hydroxy-corticosteroids, and 17-oxyestrogens during and after A.C.T.H. treatment. While the oestrogen, 17-hydroxy-corticosteroids, and 17-oxyestrogens followed a uniform pattern, in so far as the excretion of these hormones rose with treatment and fell to control values on finishing treatment, the gonadotrophin response differed markedly as between patients.

There was no clear-cut relationship between clinical and hormonal findings although the numbers were still small. There was a suggestion that the increase in gonadotrophin and oestrogen excretion might be associated with improvement. It was noted that A.C.T.H. after the menopause had given somewhat better results than before.

During the discussion Sir Charles Dodds noted that aldosterone production was not affected by A.C.T.H. and raised the possibility of different clinical results being associated with different batches of A.C.T.H. Trueove commented that for the M.R.C. trial the same batch had been used throughout.

The Effects of A.C.T.H. and Corticosteroids on Gastric Secretion in Humans

G. P. Crean had measured the gastric acid secretion in terms of maximal histamine secretion in 18 patients during prolonged treatment with A.C.T.H. and corticosteroids. Gastric secretion was depressed in four, unchanged in three, and increased in five patients treated with A.C.T.H. The secretory changes ranged from complete suppression (in a patient with an initially low secretion) to an increased secretion four times the order of control values. In each of five patients treated with cortisone and in one treated with prednisolone, secretion was increased, the increases ranging from 33% to 160% of control values.

The effects of single intravenous injections and of continuous intravenous infusions of hydrocortisone, and of intravenous infusions of A.C.T.H. on the hydrogen ion and electrolyte content of basal and maximally stimulated secretion were also observed. In these acute experiments the greatest changes were seen in those patients in whom acid secretion had been noted to increase during prolonged steroid therapy. Increased rate of secretion could be due to either increased metabolic activity or to an increase in number of parietal cells. The atrophy of the gastric mucosa associated with adrenal insufficiency was commented upon.

The Effects of A.C.T.H. and Corticosteroids on Gastric Secretion in the Dog

R. B. Welbourn, S. D. Clarke, and D. W. Neill reported that A.C.T.H., cortisone, medrone (a pure glucocorticoid), and aldosterone all increase the volume and acidity of secretion from Heidenhain pouches under varying conditions. Cortisone increases the maximal secretory capacity in response to histamine. All the substances reduce the concentrations of sodium and potassium in the gastric juice at the same time as they increase the concentration of hydrogen ions. They do not influence the concentration of chloride ions. The concentration of pepsin is reduced. The viscosity of the resting juice is reduced. Histological observations suggested that the number of parietal cells were increased by 50% after cortisone with a reduction in the number of peptic cells.

The Excretion of 17-Ketosteroids and 17-Hydroxy-corticosteroids in Patients with Active Duodenal Ulcers

C. N. Pulvertaft and A. G. Green had studied 58 male patients with active duodenal ulcers and 36 normal controls. In the ulcer group, the excretion of 17-keto-steroids was found to be within normal limits but the mean excretion of 17-hydroxy-corticosteroids tended to be lower than the normal controls; moreover, in ulcer patients the amount of 17-hydroxy-corticosteroids appeared to be directly related to the urine volume. In the patients referred for surgery, the excretion of uropepsinogen was also studied in order to evaluate the effect of...
gastric resection. The patients were re-examined six months after gastrectomy and the 17-ketosteroids and 17-
hydroxycorticosteroids repeated as a routine. It had been
found that partial gastrectomy lowered the excretion of
uroepsinogen, and also, surprisingly, the 17-keto-
steroids (16 patients); it appeared to have a similar effect
on 17-hydroxycorticosteroids, though the number (nine)
was small.

HORMONE METABOLISM AND THE LIVER
S. SHALDON reviewed the rôle of the liver in the
inactivation and production of metabolites of hormones.
This is achieved by structural modification, conjugation
often as a glucuronide or sulphate and excretion into the
bile. Most of the steroid hormones undergo an entero-
hepatic circulation in a similar fashion to bile acids.
The effect of chronic liver disease is to reduce detoxification
resulting in slow disappearance of hormones from the
blood, reduced urinary metabolites, and in some cases
increased effects of the hormones on their target organ.
It is the mechanism of the hyperoestrogenism in cirrhosis
as manifested by skin changes, gynaecomastia, testicular
atrophy, and impotence. It accounts also for the in-
creased effects of growth hormones in female juvenile
cirrhotics.

MULTIPLE ADENOMA SYNDROME
W. T. COOKE, D. I. FOWLER, R. GADDIE, E. V. COX,
M. J. MEYNELL, and D. BREWER presented a case report
of a 40-year-old woman with a four-year history of chronic
diarrhoea, abdominal pain, and renal lithiasis. Observa-
tions over 12 months indicated gross steatorrhoea (control-
led by pancreatin), and normal calcium, phosphorus,
and phosphatase values in serum. She excreted daily 40-60 mg.
calcium in the urine, on an intake of 125 mg. Radiological
evidence of jejunitis and nephro-lithiasis was present.
While awaiting laparotomy, she died from uncontrollable
haemorrhage from a large ulcer in the second part of the
duodenum. Necropsy revealed three pituitary adenomas,
three parathyroid adenomas, an islet cell adenoma in the
head of the pancreas, and diffuse adenomatosis through the
body and tail of the pancreas (macroscopically normal).
Histological evidence was there of hyperparathyroidism in the bones, hypertrophied adrenal glands,
and duodeno-jejunal ulceration. The metabolic investiga-
tion and diagnostic implications were considered with
those in three patients with parathyroid tumour and
steatorrhoea, two with pancreatic lithiasis, and one with
both pancreatic and renal stones.

EFFECTS OF GLUCAGON ON GASTRIC SECRETION
S. D. CLARKE, R. B. WELBOURN, and D. W. NEILL said
that work on dogs with Heidenhain and Pavlov pouches
indicated that glucagon reduced greatly the antral and
nervous phases of gastric secretion and, to a small extent,
the resting secretion and that stimulated by histamine.
The effect was not a result of the associated hyper-
glycaemia. It is possible that glucagon plays a part in the
physiological control of gastric secretion. It is most un-
likely that glucagon is the cause of the gastric hypersecre-
tion in the Zollinger-Ellison syndrome.

THE LIVER’S ROLE IN HISTAMINE ABSORPTION FROM
THE ALIMENTARY TRACT
W. T. IRVINE presented evidence that, in dogs and man,
free histamine is absorbed in small quantities from the
small and large bowel and rapidly excreted in the urine.
At physiological dose levels the amounts absorbed did
not stimulate secretion of acid in denervated gastric
pouches. But after portocaval anastomosis or the use of
an anti-histaminase drug, similar doses produced a strong
acid response from these pouches. Alternate portal and
systemic intravenous infusions of histamine at the same
dose rate showed that passage of histamine through the
liver reduced both the acid response in the stomach and
the output of free histamine in the urine. This histamine-
destroying rôle of the liver may be necessary to protect
the gastric mucosa from continuous stimulation by
histamine absorbed from the bowel, and may account for
the higher incidence of peptic ulcer in cirrhosis.

Some doubts were expressed about this process in the
ensuing discussion in view of the relative frequency of
gastric ulcer in these cases and the association of other
factors such as venous congestion.

THE MODE OF ACTION OF GASTRIN AS EXAMINED IN
THE EXPERIMENTAL ANIMAL AND ITS ACTION VIA THE
RELEASE OF HISTAMINE IN THE STOMACH WALL
A. N. SMITH described studies to find out whether
gastrin acted directly on the parietal cells through the
intermediate release of histamine. With an almost
histamine-free preparation of gastrin it was found:
(1) That gastrin had a local action on the parietal cells.
(2) That histamine was also released from the stomach
wall. Other tissues, however, were found to release an
even greater amount of histamine. This was shown by
perfusing or incubating the tissues with gastrin. (3) The
amount of histamine released from the stomach wall into
the portal blood was very small. It could be demonstrated
best by temporary diversion of the portal blood via a
shunt into the systemic circulation. The resultant fall in the
systemic blood pressure was abolished by a histamine
antagonist.

It seemed that this was a non-specific release of his-
tamine and in fact much more occurred in other sites of the
body. It was noted that the effect of gastrin was dependent
on intact vagal innervation.

A SEARCH FOR FACTORS AFFECTING GASTRIC SECRETION
IN THORACIC DUCT LYPH OF DOGS
I. D. A. JOHNSTON reported experimental work
studying the inhibitory influence of fat in gastric
secretion, especially to find out whether an inhibitory
factor could be isolated from fat in the lymph duct.
The thoracic ducts of dogs were cannulated, and lymph
collected during both stimulation and inhibition of gastric
secretion. The lymph samples were tested by injecting
them intravenously into dogs with gastric pouches
secreting in response to histamine. About half the samples
inhibited gastric secretion. The rest either stimulated
secretion or had no effect. Reactions occurred in about
a third of the animals which had inhibition. Inhibitory
and stimulatory factors were present as often in resting as in any other type of lymph. Lymph collected after a meal of fat was separated into fat and fat-free portions by centrifugation. The fat fractions stimulated gastric secretion while the non-fat fractions carried the inhibitor when it was present. The presence of inhibitory or stimulatory factors in lymph has not been found to correlate consistently with any physiological sequence.

During the discussion it was pointed out by Sircus and Hunt that the amount of oil was an important factor and anything producing nausea would depress secretion.

Post-vagotomy Diarrhoea
H. Burge gave an account of the anatomy of the vagus nerve with special reference to the hepatic and pyloric branches, and a comparison was made between routine vagotomy and patients who had had a selective vagotomy leaving the hepatic branch. Only one out of 18 such patients had looseness of the bowels compared with 10 out of 25 using the previous technique.

The Budd-Chiari Syndrome
J. B. Gibson presented a full account of this thrombophlebitic disease which affects the hepatic veins. The patients are often young adults. The onset of symptoms may be gradual or sudden whatever the lesions; extensive obstructions can exist without symptoms. The lesions are thrombotic rather than inflammatory. The existence of ostial sphincters explains the remarkable localization of lesions to the ostia in Chiari's disease. Of 13 cases of this syndrome of hepatic-venous obstruction, without cancer, one is well, another was diagnosed incidentally at necropsy, and 11 were fatal. In three of the last group the large hepatic veins were involved primarily; the ostia were primarily involved (Chiari's disease) in five and probably in three other cases. Liver biopsies may show blood lagoons. It seemed likely that anticoagulants exerted a favourable effect on the course of the disease, and in time recanalization of the clot may occur.

In the discussion Naish reported a puerperal case which had been treated successfully by anticoagulants and Fitzgerald commented on the association with polycythaemia rubra vera.

Intestinal Pseudo-obstruction with Steatorrhoea
J. Naish and W. M. Capper reported a new syndrome of recurring episodes of pseudo-obstruction associated with hypermotility of the small intestine and diarrhoea. A patient was reported who had had recurrent bouts of abdominal pain with distension and vomiting and was found to have steatorrhoea. Radiographs showed distended small intestine full of gas and fluid that was shuttled back and forth by segmental movements. At laparotomy there was no obstructive lesion but a most remarkable peristaltic activity of the gut was observed. Histology of the jejunum was normal apart from thickened muscular coats.

From the study of another case and of reports of patients sent from colleagues elsewhere it was suggested that a combination of recurrent abdominal distension and vomiting, steatorrhoea, and abnormal peristaltic movements of the small intestine might be associated with the syndrome on its own without being associated with other general or local diseases.

During the discussion Bruce Pearson mentioned the possible value of prostigmine in such patients and Badenoch referred to the possibility of mesenteric vascular insufficiency.

Manometric Study of Sigmoid Motility in Functional Bowel Disorders
A. M. Connell and E. N. Rowlands, using tiny balloons and a metal capsule optical manometer, studied the motility of the sigmoid colon in health and disease. Patients with active diarrhoea have a diminution of all types of intraluminal pressure changes.

A proportion of patients with non-specific functional bowel disorders had atypical patterns of motility. Evidence was presented that some of these variations possibly represent a failure of the normal neuromuscular control of the large bowel.

Radiological Examination of the Small Intestine
W. G. Scott-Harden stated that the effective use of the small bowel enema depends upon accurate and immediate duodenal intubation and upon a double contrast enema to overcome the disadvantage of total opacification of the coils with overlay of the critical areas. A method of controlled manipulation of the duodenal tube was described, using a sheathed tube unit with opaque marker rings to ensure accurate positioning during fluoroscopy. The tube and technique of introduction were illustrated. A number of illustrative films were shown.

Scientific Demonstrations
The following demonstrations were shown:

An Abrasive Balloon for Gastric Cytology
P. A. J. Ball and A. H. James (Cardiff)
This instrument has an abrasive surface which can be infolded during passage and withdrawal so that it is not contaminated with oesophageal cells. This makes examination of the smear less laborious. Our experience suggests that the instrument has its greatest use when the suspected lesion is near the cardia. It is made of polyvinyl chloride tubing and sheeting, welded by high frequency dielectric heating. The abrasive surface is made of nylon net.

Gastroscopy
H. W. Rodgers
The gastroscope and the indications for its use are described. The value of the investigation is illustrated with coloured drawings. The chief danger is perforation of the crico-pharyngeal region, which is diagnosed by the presence of fever and local tenderness and treated by surgical exploration.

References
THE NUTRITIONAL ASPECTS OF GASTRIC SURGERY
R. B. Welbourn (1956)

Loss of weight, iron-deficiency anaemia, megaloblastic anaemia, and vitamin B deficiencies are common after operations on the stomach. The factors which influence them and their causes and treatment were described.

REFERENCES

TREATMENT OF WEIGHT LOSS AFTER PARTIAL GASTRECTOMY

Weight gains, averaging about 4 lb. in eight weeks, are produced in patients who are underweight by dietary supervision, testosterone, or iproniazid. Dummy tablets, iron intramuscularly, and vitamin B12 have no effect.

REFERENCE

GASTRIC SECRETIONS AND THE MAINTENANCE OF NUTRITION IN THE DOG
I. D. A. Johnston and R. B. Welbourn (1958)

Dogs which have lost their gastric reservoirs, but whose gastric secretions enter the duodenum, maintain weight better than those which have undergone total gastrectomy. This is probably the result of better absorption of fat and nitrogen. There is no evidence of an internal gastric secretion which influences nutrition.

REFERENCE

GASTRECTOMY IN THE RAT

Total gastrectomy always causes loss of weight, impairment of growth, thickening of oesophageal epithelium, anaemia, and early death. Loss of secretory function is more important than loss of the reservoir function of the stomach. Iron intramuscularly causes temporary increase in weight and correction of anaemia.

GASTRIC SECRETION AND THE PITUITARY-ADRENAL AXIS

In the rat adrenalectomy reduces gastric secretion. Cortisone subsequently increases it to a supranormal level. Hypophysectomy greatly reduces secretion. Cortisone and growth hormone restore it. In patients with Cushings syndrome gastric secretion is increased. Subtotal adrenalectomy restores it to normal.

REFERENCES

EFFECTS OF CORTICOTROPHIN AND ADRENAL STEROIDS ON THE SECRETION FROM DENERVATED GASTRIC POUCHES IN DOGS

The effects of corticotrophin (A.C.T.H.), cortisone, “medrone” (a “pure” glucocorticoid), and aldosterone (a “pure” mineralocorticoid) on gastric secretion from denervated (Heidenhain) pouches in dogs were observed. All increased the volume and acidity of the juice under a variety of conditions. They reduced the sodium and potassium content of the juice, but did not affect the chloride content. The viscosity of the resting juice was reduced. The pepsin content was reduced.

THE EFFECT OF CORTISONE ON THE MAXIMAL SECRETORY RESPONSE OF THE STOMACH TO HISTAMINE

Cortisone increases the maximal secretory capacity, in response to histamine, of denervated pouches in dogs.

THE EFFECT OF GLUCAGON ON GASTRIC SECRETION IN THE DOG

Glucagon reduces the volume and acidity of gastric secretion from innervated and denervated pouches in dogs. The effect is independent of its hyperglycaemic action.

THE PREPARATION OF GASTRIC POUCHES IN DOGS
G. A. Smith, R. B. Welbourn, and S. D. Clarke (1959)

The surgical technique for the preparation of denervated (Heidenhain) and innervated (Pavlov type) pouches was illustrated.

REFERENCE

SOME OBSERVATIONS IN A PATIENT WITH ZOLLINGER-ELLISON’S SYNDROME
Margaret T. England, J. M. French, Annette B. Rawson, and F. A. R. Stammers (Birmingham)

METABOLIC STUDIES IN A PATIENT WITH WHIPPLE’S DISEASE DIAGNOSED BY SUCTION BIOPSY, WITH SPECIAL REFERENCE TO THE CONTROL OF DIARRHOEA WITH ANTIBIOTICS
Margaret T. England, J. M. French, and Annette B. Rawson (Birmingham)

HEPATIC DISEASE

The clinical features were presented, with the modes of onset and the signs and symptoms, of hepatic failure. The special investigations were described, including needle biopsy and special radiological techniques.
Photomicrographs of histological features were demonstrated. An analysis was shown of the causes of 111 cases of hepatic disease.

TOTAL ARTERIALIZATION OF THE LIVER
J. A. McCredie, J. R. Doggart, and R. B. Welbourn (1957)

The effects in dogs of portocaval anastomosis and of the same procedure combined with arterialization of the hepatic and of the portal vein were compared. In normal dogs arterialization prolongs life and maintains weight and hepatic function better than portocaval anastomosis alone, but tends to thrombose the portal vein. Arterialization confers no benefit on dogs with cirrhotic livers.

REFERENCES

PERITONEOSCOPY
H. W. Rodgers and J. A. McCredie

The chief indication for peritoneoscopy is in the investigation of the condition of the liver. It is also useful in providing information on other abdominal organs and tumours that can be seen lying anterior to or level with the great omentum, and for inspecting the pelvis. The technique and dangers were shown and some examples of the appearances were illustrated.

OCCLUSION OF THE HEPATIC VEINS
J. B. Gibson (1958)

In five cases of Chiari's disease the hepatic veins were occluded at the ostia, apparently before the onset of symptoms. Congestion of the liver and focal necroses resulted. Massive ascites developed from transudation of liver lymph. Similar clinical results can follow occlusion deeper in the veins (Budd-Chiari syndrome).

OBSTRUCTION OF THE PORTAL VEIN
H. W. Rodgers and J. B. Gibson (1958)

Data were presented from cases observed in Belfast in relation to clinical manifestations, radiological and other diagnostic features, operative findings, and prognosis. Pathological material was demonstrated from eight cases occurring in Glasgow and Belfast of cavernous transformation of the portal vein.

REFERENCE

SERUM PROTEIN ELECTROPHORESIS PATTERNS IN LIVER DISEASE
D. W. Neill

The use of apparatus for the automatic scanning and recording of paper electrophoresis strips was demonstrated and typical records were shown.