Differential Diagnosis

Figures taken from the literature and from our own cases show that the two most common conditions with which acute pancreatitis is confused in the clinical diagnosis are perforated peptic ulcer and acute cholecystitis. The treatment of perforated peptic ulcer is early operation, whereas in acute cholecystitis (although fashion changes from time to time) most surgeons adopt a conservative attitude, operation being performed as an emergency only when certain pathological changes occur which make it dangerous to continue with conservative treatment.

It is my belief that the most severe cases of acute pancreatitis, particularly in men, simulate perforated peptic ulcer, and the less severe cases simulate acute cholecystitis. In the cases of acute pancreatitis mistaken for perforated peptic ulcer, operation is performed and the mortality is high. In the less severe cases, mistaken for acute cholecystitis, conservative treatment is adopted and the mortality is lower. The result of this is that the mortality for operation is higher than for conservative treatment; but this gives a false picture of the effect of operation on the mortality, because the cases diagnosed pre-operatively as perforated peptic ulcer are the most severe ones and will have a high mortality rate in any case, although the added strain of an operation must increase the rate, but not to the extent which is implied by a comparison between the conservative and operative treatment.

If laparotomy is performed because of doubt or mistaken diagnosis it seems logical that the least possible intra-abdominal interference should take place. Decompression of the biliary system by means of cholecystostomy may be advisable, and drainage of any large collection of fluid in the lesser sac.

Analysis of Cases

Thirteen cases of acute pancreatitis in which the diagnosis was confirmed by one or more of the criteria mentioned above were treated at Crumpsall Hospital during the four-year period 1941-4. Ten of these cases were submitted to operation; the pre-operative diagnoses of these cases are as follows:

Cases Submitted to Operation within 60 Hours of the Onset of Acute Symptoms

Pre-operative diagnosis:	Cases
Perforated peptic ulcer	2
Peritonitis	2
Acute cholecystitis	1
Acute intestinal obstruction	1

Cases Submitted to Operation 10 to 30 Days after the Onset of Symptoms

Pre-operative diagnosis:	Cases
Cholecystitis	3
Pancreatitis	1

As an explanation of the diagnosis of the cases submitted to early operation it should be noted that acute pancreatitis was considered in at least four instances, but because of uncertainty it was thought unwise to continue with conservative treatment.

Suggested Procedure

In a case where the diagnosis of acute pancreatitis is a possibility one must first consider whether it may be a perforated peptic ulcer, and if reasonable doubt exists laparotomy must be performed. If at operation an acute pancreatitis is found the most that should be done is decompression of the biliary system by means of cholecystostomy, and drainage of any large collection of fluid in the lesser sac. Acute pancreatitis is associated with gall-stones in a high proportion of cases, and if there is an impacted stone at the neck of the gall-bladder cholecystostomy is useless unless the stone can be removed. In such a case cholecystectomy should be performed if the general condition of the patient allows it. Gastro-intestinal suction should be used in all cases, whether treated conservatively or by operation.

If the diagnosis of perforated peptic ulcer or any other condition requiring urgent intervention can be eliminated, conservative treatment should be adopted. Conservative treatment means careful periodic examination of the patient, with an hourly record of the pulse rate, continuous gastro-intestinal

suction, administration of intravenous therapy (preferably plasma), and an estimation as soon as possible of the blood or urinary diastase. Whipple (1942) prefers the serum lipase test of Myers, which, he states, can be performed within an hour by those experienced in its use. At a later date a radiological examination of the gall-bladder should be performed, and if stone or non-function of the gall-bladder is demonstrated, operation must be undertaken.

Summary

In acute pancreatitis a diagnosis of perforated peptic ulcer or some other surgical emergency will be made in approximately 40% of the cases and laparotomy be performed. The mortality rate will be high in these cases, chiefly because they are the most severe.

Where the diagnosis of acute pancreatitis or acute cholecystitis is made the patient should be treated conservatively on the lines described. In these cases the mortality rate will be lower, chiefly because they are less severe.

In the mild cases the diagnosis of acute pancreatitis will often not be made.

REFERENCE

Whipple, A. O. (1942). *New Engl. J. Med.*, **226**, 515.

Medical Memoranda

A Fatality from Thyroidectomy following a Leucopenia caused by Thiouracil

There has recently been considerable interest in the treatment of thyrotoxicosis by the administration of thiouracil. It is difficult to assess the value of any new drug without extensive trials; the publication of a single case report is probably of little value of itself, but when taken in conjunction with others it may help to form a basis of opinion.

CASE HISTORY

Mrs. A., aged 67, was admitted to the Royal Victoria and West Hants Hospital, under Dr. Robson, as a case of heart failure. For the previous 15 months she had suffered from increasing dyspnoea, especially on exertion, and swelling of the ankles. She experienced no cardiac pain or palpitations. She had a slight productive cough but had never had any haemoptysis. Appetite was good, and there was no loss of weight. Her symptoms had increased markedly during the month before admission, so that any slight exertion tired her. Her previous history contained nothing relevant. There was no record of rheumatic fever or tonsillitis.

On admission the patient was fairly well covered and there was no apparent recent loss of weight. She had a well-marked exophthalmos, with a moist skin and slight tremor. She did not appear to be very nervous. She had a pronounced auricular flutter with a pulse rate of 120. The apex beat was 4 in. (10.2 cm.) from the midline, in the fifth left intercostal space. A systolic murmur was heard over the cardiac area, with maximum intensity over the apex beat; a mid-diastolic murmur was also present. There was evidence of back pressure, with oedema and pitting over the lower limbs and back. Some crepitations were heard at the bases. The liver was not enlarged. There was a uniform enlargement of the thyroid, which was smooth and fairly firm. A systolic murmur could be heard all over the gland.

Radiological examination of the chest showed gross cardiac enlargement with back pressure. The urine contained no casts, but there was a slight trace of albumin. The blood urea was 37 mg. per 100 c.cm. Blood count: erythrocytes, 6,160,000 per c.mm.; Hb, 62%; colour index, 0.5; leucocytes, 7,000 per c.mm. (polymorphs 68%, lymphocytes 24%, monocytes 8%).

She was treated with digitalis and sedatives at first, which improved the rate and regularity of her heart. She was then put on a course of Lugol's iodine, which was discontinued on account of persistent diarrhoea. A course of mercurial diuretics was then tried, with some improvement. It was decided to start her on a course of thiouracil, owing to her apparent intolerance of iodine. She received daily injections of 0.3 g. for one week, at the end of which time she was found to be suffering from a leucopenia, her leucocytes having dropped to 3,900 per c.mm. (polymorphs 60%, with a relative lymphocytosis). An immediate injection of 10 c.cm. of pent-nucleotide restored her leucocytes to 8,200, with 80% of polymorphs. However, four days later her leucocytes had fallen to their original level. Her general condition had improved with thiouracil; whereas she had lost a stone (6.3 kg.) in weight during one month's treatment in hospital, she now started to gain. As her blood picture remained unsatisfactory she was given daily injections of 10 c.cm. of pent-nucleotide, which produced only a temporary improvement in her leucocyte count. These injections, however, brought about a severe general reaction, with a rise of temperature and pulse rate. After three weeks' treatment, with no permanent improvement in her blood picture, her thyrotoxicosis began to become more apparent, with a

return of her fibrillation. It was decided that her only chance of recovery lay in a thyroidectomy. She therefore began another course of Lugol's iodine. Her leucocyte count a day before operation was 4,400 per c.mm.

Operation was performed under avertin, gas-oxygen, and local anaesthesia. Seven-eighths resection of the gland was carried out. Her condition on return from the theatre was fairly satisfactory, with a pulse rate of 90. She was unable to retain any Lugol's iodine given by the rectum, and intranasal feeding was not tolerated. Some eight hours after operation her pulse rate rose sharply to 140, and she became very restless. She apparently died of a thyrotoxic crisis some 24 hours after operation.

COMMENT

This case presented the familiar problem of an elderly thyrotoxic patient with advanced cardiac damage. The difficulty arose from her intolerance of iodine. Thiouracil produced an improvement in her toxic condition, but the effect was offset by the apparent irreversible change in her blood picture. Pentnucleotide produced only a temporary improvement, which was accompanied by disturbing general reactions; this might have been overcome by the administration of extract of yellow bone-marrow, given by the mouth. This case is the first fatality in a small personal series of under 100 thyroidectomies, which included some severe thyrotoxic cases with concomitant heart damage.

My object in reporting this case is to stress the danger of subjecting a patient to thyroidectomy with an uncompensated granulocytopenia, even if the other indications for operation appear to be urgent.

C. E. P. MARKBY, B.Ch., F.R.C.S.,
Assistant Surgeon, Royal Victoria and West Hants Hospital,
Bournemouth.

Palindromic Rheumatism

This syndrome seems so clear-cut that it is strange, in view of the widespread interest shown in rheumatic conditions over the last 20 years, for it to have escaped notice in the U.S.A. until four or five years ago and, here, until Wingfield (1945) reported a case in the *Journal*. Hench and Rosenberg (1941, 1944), the former a leading authority on rheumatism, described 34 cases from the Mayo Clinic, and Cain (1944) one case. No excuse, at any rate, need be made for reporting further cases as they come to notice. The symptoms and signs presented by a patient seen in Sept., 1945, accord closely with the accounts given already.

A housewife aged 53 was sent to Droitwich for treatment for arthritis. She gave a history of four years of frequent brief acute attacks of pain, swelling, and redness of her joints, or of the tissues near them, lasting a few hours to six days, generally three days. The intervals were quite irregular. Some malaise occurred during the attack, but the temperature was never raised. She was perfectly well, with no joint symptoms whatever, between the attacks. These often started at night. The hands, knees, or feet were usually affected.

The patient was a healthy well-nourished woman with a slightly enlarged thyroid but no symptoms or history of hyperthyroidism. She had never had a doctor except for her six confinements and for the present condition. There was a small patch of inflammation on the dorsum of the left foot, which cleared up within 24 hours, and a small subcutaneous nodule near her right elbow. During her stay of three weeks her right wrist, the subcutaneous tissue at the nape of the neck, and her left ankle were affected in turn for three to four days. Her temperature was at all times normal. The B.S.R. was normal in two of the intervals, but was raised (28 Westergren) during the last episode. The blood count, blood uric acid, urine, and x-ray appearances (hands and knees) were normal. Salicylates had no effect.

Following biopsy, Hench and Rosenberg describe: (a) typical inflammatory joint reaction; (b) inter- and intra-cellular oedema of the skin; (c) low-grade non-specific reaction in the nodules. As to aetiology, they reject infective, allergic, and angioneurotic possibilities; there is then, for the moment, even less of a clue to it than in rheumatoid disease, the condition which the syndrome most closely resembles. It would appear, however, that anxiety and strain may play, at any rate, a predisposing part in both conditions. Thus the one patient in the Mayo Clinic group who lost her attacks completely, did so after she "quit worrying and adopted a baby," and another had less severe attacks after he "quit the oil business, became a druggist, and took phenobarbitone daily," while the patient whose case is described here started hers after months of great war strain and of anxiety about her son, who had disappeared in Malaya.

Droitwich.

A. R. NELIGAN, M.D.Lond.

REFERENCES

- Cain, J. C. (1944). *J. Amer. med. Ass.*, **125**, 1037.
Hench, P. S., and Rosenberg, E. F. (1941). *Proc. Mayo Clin.*, **16**, 808.
— (1944). *Arch. intern. Med.*, **73**, 293.
Wingfield, A. (1945). *British Medical Journal*, **2**, 157.

Reviews

A YEAR'S BIOCHEMISTRY

Annual Review of Biochemistry. Vol. XIV. Editor, James Murray Luck; Associate Editor, James H. C. Smith. (Pp. 856. 30s.) California: Stanford University Press; London: H. K. Lewis and Co.

Without any externally visible enlargement, this year's volume exceeds its predecessor by yet another 60 pages: visions of future indefinite expansions involving the supply of a small mechanical crane along with each new edition float before a semi-stunned reviewer's mind's eye. Perhaps, however, things are not quite so desperate: the rate of increase may be decelerating, for last year (see review in the *Journal* of Nov. 18, 1944) we had to register an increase of 90 pages.

Once more the editors have drawn their contributions from the British Commonwealth as well as predominately from the United States. Two of this year's experts are from Britain and three from Australia; the remainder are American authors. Again, although most of the contributions derive from academic laboratories—universities, medical schools, and research institutions—inspection of the various authors' places of work reveals that three out of the forty were engaged in industry—a rather smaller proportion than in Vol. XIII.

An admirable balance is once more maintained between, on the one hand, the chemical and the biological aspects of fundamental biochemistry and, on the other, between these and their application. Thus we have again chapters on biological oxidations and reductions, and on non-oxidative enzymes; on the chemistry of the carbohydrates, of the lipids, and of the amino-acids and proteins; on the water-soluble and on the fat-soluble vitamins; on carbohydrate metabolism, on fat metabolism, on protein and amino-acid metabolism, on mineral metabolism; on the chemistry of the hormones; on the chemistry and metabolism of phosphorus compounds; on the steroids and the nucleic acids. These hardy and welcome perennials are enlivened by the usual addition of bright new annuals. This year chapters are devoted to the triterpenes, to animal pigments (chloroplast pigments were surveyed last year), to detoxication mechanisms, to biological nitrogen fixation, and (a complementary story) to the nitrogenous constituents of plants and also to their mineral nutrition. At the very end are two chapters on subjects of topical and still growing interest—namely, the chemistry and metabolism of bacteria, and the chemistry of antibiotic substances other than penicillin. The author of this last chapter, Dr. A. E. Oxford writes: "By reason of a regulation designed to ensure the better prosecution of the war effort, the first article in the *Annual Review of Biochemistry* to deal exclusively with a comparatively new but rapidly growing field in microbiological chemistry cannot include anything about the most remarkable substance in that field—namely penicillin. This is the less to be regretted since penicillin ought undoubtedly to have a review to itself when publication upon its purification and chemical nature is again permitted." Already his prophecy has been in part fulfilled, with the publication of the surviving two alternative formulae out of the many that have been so assiduously and secretly elaborated, studied, and rejected during the past four years. It can be confidently anticipated that next year's *Review* will contain something like the account forecast by Dr. Oxford.

Meanwhile there is still only one word that is indispensable to the description of this annual source of satisfaction and humility: the word is—indispensable.

PSYCHOLOGICAL MEDICINE

Psychological Medicine. A Short Introduction to Psychiatry. With an Appendix on Psychiatry associated with War Conditions. By Desmond Curran, M.B., F.R.C.P., D.F.M., and Eric Guttman, M.D., M.R.C.P. Foreword by J. J. Conybeare, D.M., F.R.C.P. Second edition. (Pp. 246; illustrated. 10s. 6d. plus 6d. postage.) Edinburgh: E. and S. Livingstone.

Among the very numerous books which have been written on this subject in recent years this volume may be described as outstanding, and the publication of a second edition in two and a half years and at a time when the issuing of books is so difficult shows that the medical public has appreciated this fact. Its great merit is its brevity, its clarity, and its middle course