classifications have been attempted based on the presenting or dominating symptoms. Thus we have the well-recognized "peritoneal" type, simulating the acute abdomen; a "nervous" type, presenting with convulsions and delirium; and a third variety simulating a severe purpura. An "asthenic" type was described by Arnaud as early as 1900, but the original reference was not available, and we know of no case-description, except the one recorded above, which typifies this asthenic group of Arnaud.

Conclusion

The features of the above case which seem to deserve emphasis are: (1) The insidious onset, but ultimately rapid collapse due to apparently causeless circulatory failure. (2) The absence of abdominal pain, which if present would have been of real diagnostic help, and this despite the severe haemorrhage into the right suprarenal; the same applies to the absence of petechiae. (3) It has been suggested that the purpura, when it occurs, is merely a manifestation of severe septicaemia: our case would support this belief. (4) The diagnostic value of the intense cyanosis associated with cardiovascular collapse. The cyanosis is much more striking than in any ordinary variety of acute heart failure, such as that due to a coronary thrombosis. (5) Was the patient really suffering from influenza and, if so, was the influenza responsible for the suprarenal failure? At no time did the case suggest a septicaemic state.

Summary

A case of suprarenal haemorrhage of the so-called "asthenic" type is described; the diagnostic difficulties are discussed. It was possible to suspect the diagnosis during life as the only explanation of the profound cardiovascular collapse.

Medical Memoranda

Acute Appendicitis, treated with Penicillin

I would like to bring forward the following case record to show the dramatic effect of penicillin in what would otherwise have been a hopeless case of acute appendicitis, with perforation, gangrene, and general peritonitis.

CASE HISTORY

A male aged 4 years 11 months was admitted to this hospital on Aug. 16, 1944, at 2.20 p.m. The previous day he had been ill with vomiting, and when seen by his own doctor had shown all the classic signs of acute appendicitis. On admission he had a tender and rigid abdomen, with pain more pronounced in the right iliac fossa. The knees were drawn up, he was restless, and he looked very ill. Temperature 101.8°; pulse 136.

Operation was performed at 3.5 p.m. under open ether—right pararectal incision. The abdomen contained thin greenish foul-smelling fluid, with gas. The appendix was found to be retrocaecal, coiled up on the caecum, with the thickened omentum wrapped over it. The omentum was separated and a small gangrenous portion removed. The appendix was perforated about the middle, and was also gangrenous in this area. The neighbouring bowel was covered with soft greenish fibrin over a wide area. The appendix was removed, the R.I.F. well swabbed out, a drainage-tube inserted, and the wound closed.

A specimen of the fluid in the abdomen was sent to the pathologist at St. John's Hospital, and he reported the presence of *Str. haemolyticus*, staphylococci, and a Gram-negative diplococcus.

Immediately after operation 1.2 c.cm. of nikethamide (coramine) and 1 c.cm. of staphylococcus antitoxin were injected. Sodium sulphapyridine 3 c.cm.—i.e., 1 g.—was injected 4-hourly, also transpulmin 1 c.cm. b.d. The child's condition was very poor: temperature 99°, pulse 164; vomiting brown fluid; very restless, and delirious. 1 c.cm. of camphor in oil was injected during the night. Next day his condition had not improved: temperature 97.8°, pulse 158; delirium, vomiting, and restlessness continued; sedatives had no effect.

At 6.15 on this day treatment with penicillin was begun, and the sulphapyridine was stopped. The method of administration was to run in 15,000 units, in a strength of 2,500 units per c.cm., through a catheter and pass it into the abdomen through the drainage-tube. The catheter was clipped to keep the penicillin within the abdomen. This procedure was repeated every three hours, but before each fresh injection the fluid in the abdomen was withdrawn through the catheter by means of a syringe. Pathological tests were taken of each syringe of fluid so withdrawn. This treatment was carried out as stated every three hours for the next 48 hours, making 14 injections in all and employing 200,000 units of penicillin.

The child made little progress for the first 24 hours, but was quieter, with temperature 98.4° and pulse 136, and the report on the abdominal fluid showed that the growth of streptococci was

inhibited, while the Gram-negative bacilli were still present, and were mostly coliforms.

After the first 24 hours the child began to make a striking recovery. The restlessness, vomiting, and delirium ceased, the temperature was 98.4° and pulse 132, he began to take fluids, and he had a good bowel action. On the third and fourth days after the operation penicillin was employed twice daily, morning and evening, in the form of an irrigation of the abdomen, with 20,000 units in the same strength as before; but it was not now retained in the abdomen, the catheter was not clipped, and a smaller drainage-tube was inserted. A pathological report showed no growth of streptococci.

At the end of the fourth day the drainage-tube was removed; there was no discharge, the wound was clean and healthy, and the child was quite well, taking food by mouth and sleeping normally. His subsequent progress has been uneventful.

COMMENT

The above case shows that the abdominal cavity can be sterilized by repeated aspirations of exudate and replacement with penicillin, and that the toxic condition is thereby relieved. Penicillin eliminated the infection so that the patient's resistance was raised and his general condition improved; this contrasted strikingly with his previous very toxic state, in which subnormal temperature, rapid pulse, vomiting, and delirium were all present, indicating a very poor prognosis.

A total of 200,000 units of penicillin was left in the abdominal cavity in the first 48 hours, and in the subsequent 48 hours 80,000 units were used for irrigation.

I wish to record my great thanks to the American Ambulance Unit of Great Britain who so kindly and promptly sent a supply of penicillin in one of their cars. They must be proud to know that they have saved the life of this child. I would also like to thank the pathologist for his interest and co-operation in carrying out the pathological investigations, and the medical superintendent—Mr. G. Richardson—for helping me to write this report. I am very grateful that I have had this opportunity of treatment with penicillin, for I can now spread the light of this experience in my own country when I return there after the war.

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Agranulocytosis after Use of Thiouracil

The following case is indicative of a complication of thiouracil therapy which seems to occur with rather variable quantities of the drug. In view of the early stage in experience of the complication this record may merit publication.

CASE HISTORY

The patient was a married woman aged 61. In 1907, at the age of 24, she developed a localized enlargement of the left lobe of the thyroid gland with marked toxic symptoms. She underwent an operation for the removal of the left lobe. There were no further symptoms, and she remained entirely fit until three years ago, when mild thyrotoxicosis recurred—sweating, nervousness, and slight tremor being the only symptoms. Owing to an exacerbation of symptoms, and a severe tachycardia having supervened, she was admitted to another hospital in Jan., 1944, for thiouracil therapy.

She was given five 0.2 g. tablets daily for one month, and by the end of that time had lost all her toxic symptoms and felt well. She was kept on a maintenance dose of one 0.2 g. tablet a day, and returned home three weeks later still taking this dose. At the end of March, after about 10 weeks' treatment, she was told to have a white cell count done as an out-patient. She omitted to do this, and still continued to take 0.2 g. of thiouracil daily.

At the beginning of May, after three months and one week's treatment, she had an acute febrile attack with some ulceration of the mouth and sore throat, which were untreated but cleared up entirely within six days. On May 27, having had exactly four months of continuous thiouracil, she had an identical though very much more severe febrile attack, and was admitted on June 3, in an acutely ill state, to St. Bartholomew's Hospital at Hill End.

On admission the following positive findings were recorded: T. 103°, P. 108, R. 24. Restless; skin hot and dry. There was much conjunctivitis of the left eye, with cellulitis spreading in the infra-orbital tissue. There was severe inflammation of the tonsils and fauces; the tonsils almost met in the midline, and spots of purulent exudate covered much of the oral and pharyngeal mucosa. The neck glands were bilaterally enlarged and tender. The thyroid was enlarged by an adenoma of the right lower pole about 3/4 in. in diameter. There were no eye signs and only slight tremor. Several petechiae were present over the chest and arms. The lungs and heart were normal. The spleen was enlarged to one inch below the costal margin; it was slightly tender. The urine had a trace of albumin, but was normal to other ward tests; it was acid, with a sp. gr. of 1010.

The day before admission a white cell count of 1,200 had been recorded; it was mainly lymphocytic, with an occasional degenerate polymorph. 10 c.cm. of pentnucleotide had been given. Shortly after admission a further 10 c.cm. of pentnucleotide was given intramuscularly and a pint of blood, warm from the donor, was rapidly transfused; 500 mg. of ascorbic acid was also given intravenously, and oral glucose and copious fluid were encouraged.

On June 4 the general condition seemed slightly improved; the left eye was frankly purulent. Large doses of ascorbic acid, 500 mg.

t.d.s., and 150 mg. of hesperidin were continued. A second pint of perfectly fresh blood was again rapidly transfused. The white cells at this stage numbered 1,500; a sternal marrow film showed marked hypoplasia with arrest of the granulocytic elements at the myelocyte stage.

On the third day, June 5, the pentnucleotide was increased to 20 c.cm. twice daily. The white cells had risen to 1,860, 149 of which were neutrophils. The fourth day saw the advent of moist sounds in the chest with some cough, but the patient herself felt much improved. A third pint of fresh blood was given. On the sixth day, June 8, there was less swelling of the neck glands, but still some rales at both bases, and the spleen had increased in size to 2 in. below the costal margin. The white cell count was then 6,700, of which 4,320 were neutrophils. A catheter specimen of urine was entirely normal microscopically and sterile. A fourth pint of fresh blood was again given. The 40 c.cm. of pentnucleotide was being maintained, though the injections gave pain and a feeling of severe malaise and anxiety of temporary nature; it was discontinued the next day, a total of 220 c.cm. having been given in seven days.

On June 13, the eleventh day, the chart was normal, the eye had almost entirely healed, and the throat was rapidly healing. The lungs were clear and the patient felt quite well. The white cells numbered 10,700. On the twenty-first day after admission the white cell count was 16,000; the spleen was easily palpable at over 2 in. below the costal margin.

Convalescence proceeded apace, and, though there was no further soreness of the throat, some considerable tonsillar enlargement remained. The patient was discharged feeling extremely well on July 12, 39 days after admission, the white cells on the last day totalling 8,100—neutrophils 65%, lymphocytes 29%, eosinophils 2%, basophils 1%, monocytes 3%.

This case had continuous thiouracil therapy for four months, with a dosage of 1 g. daily for one month and 0.2 g. daily subsequently. The neutropenia developed after three months and one week from the beginning of treatment, when the patient had taken a total of approximately 44 g. The total intake up to the second occurrence of symptoms was approximately 48 g.

Recovery was rapid after the cessation of thiouracil, and was probably due chiefly to this, although transfusion of fresh blood was no doubt of great benefit in maintaining a barrier to further spread of infection while the bone-marrow recovered its function.

I wish to express my thanks to Dr. Geoffrey Bourne for permission to publish this record for his encouragement.

DUNCAN LINSELL, M.B., B.S.

An Unusual Case of Acute Pancreatitis

The following case is considered worth reporting because of the unusual features it presented.

CASE RECORD

A healthy, well-built, and well-nourished Indian soldier, aged 27, complained of a sudden and acute onset of pain in the abdomen on the night of March 22, 1944, about four hours after his evening meal. There was a rapidly progressive collapse, and he expired before the unit M.O., who was sent for, could arrive—a matter of about 20 minutes. Death was judged to be due to heart failure, but the body was sent to the field laboratory for necropsy. There was no suspicion of foul play or poisoning, and previous to this attack he was known to be a perfectly healthy man, not addicted to any drug or alcohol and with no history of any gastro-intestinal trouble.

At the necropsy, performed a few hours after death, the paracolic gutters contained about 4 oz. of sour-smelling haemorrhagic fluid, and the lesser sac showed small scattered areas of haemorrhage. The omental fat was stained red, but did not present any areas of necrosis. The pancreas was much enlarged—length 26 cm., weight 145 g.—and the whole of it was a dark purplish black; it was very friable and adherent at places. A search for biliary and pancreatic calculi yielded negative results. The solar sympathetic plexus and the suprarenals were swollen, red, and congested. The brain had a few pin-point haemorrhages scattered throughout the cortex and medulla. The rest of the necropsy, which was a complete one, revealed nothing abnormal. Heart-blood culture and Kahn test were negative. Histological examination, carried out at the Central Pathological Laboratory, M.E.F., showed the pancreas riddled with foci of acute necrosis. The immediate cause of death seems to have been a sudden and severe shock to the sympathetic system and the suprarenals.

COMMENT

The unusual features in this case were: (i) Extremely rapid fatal termination—in fact, within 20 minutes of the onset of the first attack in a previously healthy man: usually the time taken is hours or days. (ii) Absence of calculi or inspissated bile, usually the commonest cause. (iii) Absence of septicaemia, the next commonest cause—though in the lack of any other evidence this must be assumed to have been responsible, the negative blood culture notwithstanding. (iv) Absence of the diagnostic foci of fat necrosis, probably due to the very short duration of the illness.

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Reviews

FOLLOWING UP THE HOSPITAL PATIENT

Medical Care of the Discharged Hospital Patient. By F. Jensen, M.D., H. G. Weiskotten, M.D., and M. A. Thomas, M.A. (Pp. 94; \$1.00 or 6s.) New York: The Commonwealth Fund; London: Oxford University Press, 1944.

This is an American experiment from the University Hospital of Syracuse. It should be remembered that the American hospital system is different from the British and that a number of the poorer in-patients have no family doctor who can carry on the treatment begun in hospital. It is reckoned that a considerable State economy is effected by this experiment, since the chronic case is not allowed to slip back and his subsequent period of stay in hospital is materially shortened.

An extramural medical resident was appointed with requisite nursing and social worker auxiliaries, and his duties were to follow up all cases discharged from hospital. In addition to the economic saving effected and the obvious benefit to the patient from a proper continuity of medical treatment, the teaching of the students was much enhanced by the chance afforded of following into their own homes the patients they had studied in hospital. Of all patients admitted to the medical wards of the hospital 84.1% were suffering from chronic disease, and about one-third of these had chronic degenerative cardiovascular disease. The resident extramural medical officer worked in close conjunction with the patient's private doctor when such existed. It was found that only 59.3% discharged to such a practitioner ever reported to him, and only 23.2% of those discharged to the free dispensary ever got there until the follow-up was instituted.

It is obvious that such a service is very necessary when there is poor liaison between the hospital and the practitioners of the district who use the hospital, or where the hospital is not acting in a consultative capacity so that the patient short-circuits his own doctor; but if all "played the game according to the rules" such a service should not be needed except perhaps from the statistical scientific standpoint of a personal follow-up of the results of hospital treatment. Even this, however, should not be necessary in a well-regulated and closely knit medical service.

ARTIFICIAL PNEUMOTHORAX

Artificial Pneumothorax in Pulmonary Tuberculosis. By T. G. Heaton, M.B. With an Introduction by Dr. C. D. Parfitt. (Pp. 217.) Canada: The Macmillan Company of Canada, Ltd.

In the first part of this book the author sets out the history of pneumothorax treatment, and follows this with a study of intrathoracic dynamics, the pathology and physiology of the collapsed lung, and, finally, the complications of artificial pneumothorax therapy. The information contained in these chapters is most useful, and they will be of interest to all who are engaged in treating pulmonary tuberculosis. The author has spent much time in searching the literature, and has collected valuable statistics on such subjects as the incidence of complications and the results of treatment. It is a pity, however, that most of the references quoted are at least ten years old.

The second part of the book, dealing with the indications for treatment and the technique and management of artificial pneumothorax, does not attain the same standard as the early chapters. The subject is controversial, and it would be difficult to please everyone, but this book does not give enough detailed instruction to help a novice faced with the practical problems which constantly occur in pneumothorax treatment. For instance, the management of effusions and empyema is dismissed in three short paragraphs, and it is doubtful whether the author's enthusiasm for oleothorax will be shared in this country. He also fails to point some of the morals which may be drawn from the collected statistics, so well presented in the earlier chapters: the clear demonstration that persistent adhesions carry a bad prognosis, and that such adhesions are present in more than 40% of cases, does not tally with the subsequent statement that not more than 3% of patients with pneumothorax will require adhesion section.