walk round his bed. Chloramphenicol was continued with a dosage of three capsules twice daily for a further week, making a total dosage of 33½ g. He made an uninterrupted recovery except for slight hoarseness of voice lasting two days, and when seen in August he was feeling very well and had regained his usual weight.

Bacteriological Results.—June 4:—Supplementary report from Salmonella Reference Laboratory: Blood culture organism has the following antigenic structure: O = IX, XII (Vi); H=d. Therefore it is *Salmonella typhi*. Dr. Felix, Central Enteric Laboratory, reported that the culture belonged to an untypable Vi strain (degraded). June 8: Faeces positive for *Salmonella typhi*. The patient's serum gave a positive agglutination with this organism to a titre of 1/250. June 14:—Blood Widal test: *Typhosus*, H —, O 1/250; *paratyphosus A*, H —, O 1/500; *paratyphosus B*, H —, O 1/250.

Three subsequent specimens of faeces and urine showed no pathogens, and he was discharged from hospital in excellent health on July 7. A subsequent examination of faeces on August 11 was negative for organisms of the enteric group.

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Staphylococcal Portal Pyaemia

This condition has a grave prognosis, and before the introduction of penicillin was nearly always fatal. In the following case a severe infection of several weeks' duration was cured by combined penicillin and sulphonamide therapy.

CASE REPORT

The patient, a fitter aged 31, was referred to hospital with a diagnosis of infective hepatitis. His illness had apparently commenced three weeks previously with complete loss of appetite followed by severe upper abdominal pain, constipation, and vomiting. A few days before admission he noticed his urine was dark and his faeces pale. Before this illness the patient had been troubled with recurring carbuncles of the skin, but had not received any chemotherapy. The last one occurred on the buttock and had healed two weeks before his present symptoms began. He had served in the Middle East during the war and gave a history of several attacks of malaria, but none of dysentery.

On examination he was pale and thin. Icterus was observed in the conjunctivae but not in the skin. The temperature was 100.4° F. (38° C.). There was epigastric tenderness, but no enlargement of the liver or spleen, and no ascites. The urine showed a trace of bile.

The patient's temperature rose the following day to 102° F. (38.9° C.), and thereafter exhibited a daily swing from 99 to 103° F. (37.2–39.4° C.). Blood count showed: haemoglobin 83%; white cells 31,800 per c.mm. (polymorphs 91%, lymphocytes 7%, monocytes 2%). The clinical picture was unlike that of infective hepatitis, which view was supported by the results of liver function tests (thymol turbidity, 1 unit; thymol flocculation, 0; alkaline phosphatase (Jenner and Kay) 19.2 units). His condition deteriorated rapidly. The jaundice became deeper, and was apparent in the skin as well as the conjunctivae; the liver became tender and enlarged to four finger-breadths below the right costal margin. The abdominal pain was almost constant and became very severe. The haemoglobin fell to 66% and the white cells increased to 41,000 per c.mm. The patient was now dehydrated, thin, and desperately ill. He vomited on several occasions and had severe anorexia.

One week after admission he complained of pain in both shoulders, and these joints became swollen, hot, and painful to move. The diagnosis of pyaemia with multiple liver abscesses and suppurative arthritis of the shoulder joints then became apparent, and was confirmed by a blood culture. The organism was a penicillin-sensitive *Staphylococcus aureus*. A few days previously a needle biopsy of the liver (performed by Dr. H. A. Dewar) showed infiltration of the portal tracts with polymorphs. A fluoroscopic examination did not show any elevation or restricted movement of the diaphragm.

Penicillin, one million units daily, was started on the tenth day after admission. After three days the evening temperature was still 102° F. (38.9° C.). The next day sulphamezathine was added; the temperature fell rapidly to normal and the patient's condition improved dramatically. His appetite returned, the jaundice faded, and the liver diminished in size and lost its tenderness. He began to put on weight and became lively and cheerful. The penicillin was continued for ten days and the sulphamezathine to a total dosage of 40 g. The swelling and pain in the left shoulder joint subsided, but the right shoulder remained painful and stiff. There was no radiographic bone or joint change. The affected joint was treated by immobilization in a sling for three weeks, followed by exercises and heat. During this time the patient showed a steady improvement and the temperature did not rise above normal. He was discharged after a month in hospital.

Six weeks later he was feeling well and was free of symptoms, apart from some residual stiffness in the right shoulder.

COMMENT

The diagnosis of pyaemic abscesses of the liver was assisted in this case by the development of metastatic arthritis in the shoulder joints. Both lesions were complications of a systemic pyaemia which appeared to follow a carbuncle. The suddenness of the hepatic enlargement was a striking feature, and was similar to that observed by Wyndham (1945) in each of his three cases. The appearance of jaundice may be taken as an indication of the severity of the infection, for it is regarded by several authors (Rothenberg and Linder, 1934; Ochsner *et al.*, 1938; Smith, 1944) as a late and infrequent sign of ominous significance occurring only when the abscesses are multiple and widespread throughout the organ.

I wish to express my thanks to Dr. A. G. Ogilvie for permission to record this case.

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