NOTES ON A CASE OF BLACKWATER FEVER, TREATED BY PANCREATIC AMYLOPSIN AND TRYPsin.

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The patient, Gunner E——, R.G.A., aged 25, with fifteen months' service, was admitted to the Military Hospital, Tower Hill, Freetown, Sierra Leone, on November 3, 1915.

A man of fair physical development and constitution, he had served in this station for seven months, and had had several attacks of subtertian malignant malaria, treated with quinine.

He had only been discharged from hospital a fortnight and was still on quinine treatment.

Condition on Admission.—Tongue furred, nausea, inability to retain food, headache, pains in loins, temperature 101° F., pulse 112. During the first few days his condition became rapidly worse; temperature 104.5° F., pulse weak, collapse very marked. Quinine could not be retained when given by the mouth, and three doses of eight grains were given "intramuscular." No malarial parasites were detected in the blood, but there was an increase of large mononuclears.

Treatment was directed to his collapse—brandy being given by the mouth and saline per rectum. A mixture containing tinct. digitalis was given, and also Sternberg's mixture (sodii bicarb. 150 gr., hydrarg. perchlor. ½ gr., aqua ad 60 oz.) was given in large quantities, and retained. Billet's mixture (cal. chlor. 5 grm., sod. chloride. 10 grm., aqua dest. 1,000 grm.) was also given.

His temperature fell to 100° F. on the fourth day and remained down until the evening of the fifth day, when it rose to 103° F. and collapse was again extreme. The patient was delirious, very jaundiced, with melæna and hæmatemesis. The urine contained hæmoglobin and had acquired a dark porter tint.

It was at this stage that I decided to try the effect of injecting trypsin and amylopsin, which I had seen mentioned by one of our officers in Burma. I had ordered some from Burroughs Wellcome and Co., which however had not arrived, but Dr. Rice, the colonial Principal Medical Officer, kindly gave me some to try in the meantime. On the evening of the sixth day one ampoule of the trypsin and one of the amylopsin (Fairchilds and Co.) was injected into the substance of the glutei. Local reaction was slight, although we did not dilute the injection with normal saline as recommended.

The temperature during the seventh and eighth days and also the ninth remained at about 101° although on the ninth day the pulse rate fell from 115, which it had been for some days, to about 100. On about the tenth day the patient again became much worse, the temperature rose to 105.4° F. and he vomited; urine again contained hæmoglobin. A second dose of trypsin and amylopsin was given, and by 10 a.m. on the next day the temperature had fallen to 99° F., pulse 98. Two days later hæmoglobin had disappeared from vomit
and excretions. On the fifteenth and sixteenth days of his illness there was a slight rise of temperature and pulse-rate but this rapidly passed and an otherwise uneventful convalescence terminated the cure. On the thirty-seventh day of his illness he was invalided to England.

The attention of those who would say that post hoc is not always propter hoc; is called to the clearness of the diagnosis from yellow fever on the one hand and from quinine haemoglobinuria on the other.

Treatment, apart from the administration of trypsin and amylopsin, was directed entirely towards combating collapse, and keeping open the usual channels of excretion. In my opinion the case would have died only for the trypsin and amylopsin treatment. We have tried the same treatment on cases of subtertian malignant malaria with good results in many cases, although in some old cases parasites appear again in the circulation and quinine has to be resorted to. In first attacks amylopsin appears to sterilize the body of parasites, probably the asexual parasites are destroyed while the sexual forms escape. The injection has a decidedly stimulating effect; in one case I found the patient walking about the ward next morning although he had a temperature of 103° F. the night before when the injection was given.

At present the number of cases is too small to give a decided opinion, but the treatment appears useful in all malaria cases, especially first attacks in which sexual forms have not appeared. It is also a standby in cerebral malaria, blackwater fever and may perhaps be beneficial in yellow fever.

Clinical charts of case are given.

SEVEN-DAY FEVER IN ADEN.

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This fever has been so well differentiated by Rogers as to deserve a place in the official nomenclature of diseases.

At present in the official statistics it is returned under the obscure disease, "Pyrexia of Uncertain Origin," which conveys little knowledge as to the clinical or other nature of the fever.

The disease as it occurred on the Aden littoral, from clinical observation, leaves little doubt as to its being a very definite and separate fever, requiring classification. In British Arabia it is endemic, and attacks Europeans and Orientals with equal severity. The former are generally affected during their first two years of residence abroad.

Patients suffer from the disease irrespective of age. Males are more affected than females, relapses have not been seen, and in one case the fever was observed for two consecutive years.

General Condition and Appearance at the Onset.—The onset is generally sudden, the patient complaining of a feeling of chilliness, associated with a rigor and dull pains in the back. The face and neck are flushed and the conjunctivae injected. The development of the fever is sometimes insidious, simulating