Medical Memoranda

Sulphonamides and Tropical Ulcers

In an area in which tropical ulcers are common I have had some success when treating the condition with sulphanilamide. The ulcers include the sloughing and phagedaenic types, and there are the predisposing conditions of malaria and poor nutrition. I shall be glad to hear of the results of the same treatment given in other such areas.

Treatment.—Paint the ulcer with 2½% tincture of iodine, especial care being taken to see that it reaches well under the enveloping edges. Allow it to dry, then cover it with a layer of powder made up of equal parts of sulphanilamide and magnesium sulphate. Repeat treatment daily until cured. No bad after-effects of the drug have been observed. *Under no circumstances* should aqueous antiseptic solutions be used. Watery solutions make the ulcer worse.

CASE RESULTS

Case 1.—A schoolgirl aged 11 with malaria. Growing abnormally rapidly for her age. An ulcer of 6 months' duration on the outer side of the left ankle-joint had been treated with antiseptic solutions and ointments by various doctors. The ulcer got worse, with sloughing and gangrenous tissue round the edges. I treated the case first with equal parts of magnesium sulphate and sugar after cleansing with 90% alcohol. The procedure was very painful and cocaine was needed to allay the pain. This treatment was used for 25 days. The patient improved, but was not cured until sulphanilamide was substituted for the sugar. After 8 days of this treatment the ulcer—2 in. in diameter and ½ in. deep—was healed. Eleven months later the patient had a second attack, in the same place, after a knock on the ankle. The ulcer, this time much smaller, was cured in three dressings.

Case 2.—A woman aged 40, poor, badly nourished, and with a history of chronic malaria, had an ulcer 4 in. long, 2 in. at the widest part, and 1 in. deep, on the upper part of the right leg. She was cured in two weeks by the same treatment.

Case 3.—A boy aged 13 developed an ulcer and gangrene of the left arm after comminuted fracture. There was an extensive sloughing and gangrenous area extending 4 in.—almost from the elbow to the wrist. The patient was nearly cured after 2 months' treatment by the same routine.

Many other cases were cured by this method. Microscopically some of them showed fusiform spirochaetes and rod-shaped bacilli, pneumococci, streptococci, and staphylococci.

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The Persistence of Plasmodium ovale

The life-span of all four species of the malaria parasite outside the endemic area in naturally acquired infections is now fairly well known: the quartan parasite may persist in the human body up to 21 years (Shute, 1944), benign tertian three years, subtertian one year, and *ovale* tertian a few months. Moreover, the methods of treatment of the fever produced by the various species of parasite are more or less firmly established, and it is generally understood that *Plasmodium ovale* is the one species most amenable to quinine therapy. That there may be exceptions to this rule the following case record will show.

CASE RECORD

The patient, the wife of a doctor, was seen in Aug., 1939, after having spent one year in Sierra Leone. She had suffered six attacks of malaria during this period. In an attack in June, 1939, definite quartan parasites were found in her blood, and she was given plasmoquine-compound (plasmoquine and quinine) treatment. This had to be discontinued as she became cyanosed and suffered from severe abdominal pain, which was at first thought to be due to intestinal obstruction, but was ultimately ascribed to plasmoquine poisoning—though it should be stated that she had long been known to be the victim of ulcerative colitis. Another attack of fever followed in July, for which she received adequate quinine and mepacrine treatment for one month. After a period of leave in this country she returned to Sierra Leone, where she had several further attacks of malaria; this time a subtertian infection was definitely diagnosed, for which she was treated. She finally returned to this country in Aug., 1942, and has been here ever since.

There was some further fever in Dec., 1942, and though no parasites were found in her blood after prolonged search, on the clinical findings she was treated with mepacrine and quinine for subtertian infection. She kept more or less well until March 5, 1944, when she developed a rigor, with severe headache, vomiting, pain in the lumbar region, and a temperature of 106° F. Similar attacks occurred at 48-hour intervals. Seen on March 10, she looked pale and ill. There was slight enlargement of the spleen, and examina-

tion of her blood revealed a fairly heavy infection of typical half-grown *P. ovale* parasites. She was treated with mepacrine and quinine on the usual routine lines, and has remained well since.

DISCUSSION

It is obvious that this lady must have acquired her *P. ovale* infection in Sierra Leone at least 19 months before the parasites manifested themselves in the peripheral blood, and it is also certain that at least one full course of treatment for the subtertian infection had been given during this period. How is it, then, that the *P. ovale* parasites were not extirpated by this course of treatment at the same time as were the subtertian parasites, especially when *P. ovale* infections are seldom known to relapse in this country as do the other species? Why did mepacrine and quinine cure this attack of *P. ovale* infection when apparently it had no influence in preventing it?

This case would seem to support Shute's (1939) theory that malaria sporozoites may remain dormant for long periods underneath the epidermis, where they are unaffected by anti-malarial drugs, awaiting an opportunity of finding their way into the blood stream when a suitable state of the host presents itself; or possibly an exo-erythrocytic cycle in the human host exists similar to that in bird malaria—*P. gallinaceum* (James and Tate, 1938)—but which so far has not been demonstrated in human malaria.

From this case it would seem that, so far from being always a trivial affair, it is now becoming apparent that *P. ovale* may occasionally produce a really serious illness with marked objective symptoms such as vomiting and high pyrexia, or, as we have pointed out in a previous paper (Manson-Bahr and Muggleton, 1937), even manifestations suggestive of appendicitis.

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REFERENCES

- James, S. P., and Tate, P. (1938). *Parasitology*, **30**, 123.
Manson-Bahr, P., and Muggleton, W. J. (1937). *British Medical Journal*, **1**, 217.
Shute, P. G. (1939). *J. trop. Med. Hyg.*, **42**, 14, 201.
— (1944). *Lancet*, **2**, 146.

Pneumococcal Meningitis Treated by Penicillin

The following record of two cases of pneumococcal meningitis in which a relapse occurred after treatment with penicillin may prove of interest.

Case 1.—A woman aged 70 was admitted to Addenbrooke's Hospital, Cambridge, on Nov. 16, 1944. She was pale and wandering in mind, and there was some rigidity of the neck. However, the pupils and reflexes were normal and there were no signs of middle-ear disease. Lumbar puncture produced a turbid fluid at a pressure of 140 mm. Sulphathiazole 2 g. was given at once and 1 g. four-hourly until next morning, when pneumococci were reported on culture. The dosage was then increased to 1 g. every hour. Twenty-four hours later the pneumococci were reported to be penicillin-sensitive. Accordingly 10,000 units of penicillin were given intrathecally every six hours and 2,000 units intramuscularly every three hours. Twenty-four hours later but few pneumococci were found on culture. On the sixth day of treatment the cerebrospinal fluid was almost clear and a penicillin concentration of more than 50 units per c.cm. after 36 hours dropped to 10. It would appear that to maintain the necessary concentration frequent injections must be given. The patient completely recovered on Dec. 21, was rational and well, and was normal in pulse and temperature.

Case 2.—This patient was a woman of 28 who was 7 months pregnant and who developed pneumococcal meningitis after a bilateral mastoid operation. She was given 8,400 units of penicillin intrathecally every six hours and 16,800 units intramuscularly every three hours for four days. On the third day the temperature was normal and the cultures sterile. She relapsed, however, after 48 hours, became comatose, and died, despite a second course of penicillin. Necropsy disclosed no infection remaining in the mastoid region, but there was meningitis of the vertex.

The total dosage of penicillin given was: Case 1, 270,000 units intrathecally and 910,000 intramuscularly in six days; Case 2, 134,000 units intrathecally and 537,000 intramuscularly in four days.

Cairns *et al.* state that these cases have a tendency to relapse after doses of 7,000 units for five days. They may do so even after larger doses, as in Case 2.

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REFERENCE

- Cairns, H., Lewin, W. S., Duthie, E. S., and Smith, H. V. (1944). *Lancet*, **1**, 655.