

MALARIAL FEVER

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There are four kinds of malarial fever: intermittent malarial fever, remittent malarial fever, pernicious malarial fever, and malarial cachexia.

Intermittent Malarial Fever

An attack of intermittent fever consists of three stages: chill, fever, sweating.

(a) The chill or cold stage. Premonitory symptoms are headache, yawning, languor, pain at the gastric region, nausea, and sometimes vomiting. The patient begins to feel cold and soon gets shivering and shakes more or less violently. The teeth chatter and the face and the nails look cyanotic. The temperature when taken per mouth or rectum shows a rise to 105° or 106° F., although the skin is cool and pallid. The pulse is rapid, small and hard. This condition remains for from a quarter of an hour to one hour.

(b) The fever or hot stage. The coldness disappears, the skin becomes hot and reddened, the face is flushed, the eyes injected. There is severe headache, and sometimes there is marked delirium. The pulse is full and bounding. The temperature remains steady. This condition remains from two to six hours and the fever falls by crisis.

(c) The sweating stage. The patient begins to sweat slightly or profusely as the temperature descends. The sweating is marked first about the head and neck and finally from head to feet. The headache is relieved, and the patient feels comfortable within two or three hours. The duration of the whole attack varies from eight to twelve hours.

There are three types of the intermittent fever: tertian, recurring every other day; quotidian, recurring every day (double tertian); quartan, when the attack occurs every fourth day, or it occurs two days in succession and the third day none.

Remittent Malarial Fever

This is caused by the aestivo-autumnal parasite which has an uncertain and probably varying period of development. The fever is often very irregular. The attacks may be of an intermittent quotidian periodicity, but are longer than with the tertian or quartan infection. It has the tendency to anticipate, *i.e.*, the intervals between the attacks grow shorter. There is often no chill, and the temperature rises and falls more slowly. In the severer forms the attacks lengthen. The temperature remains almost continuously 102° to 103° F., with slight remissions. In the average cases the disease first begins with chilliness, followed by fever, which remits with sweating. The attack subsides in the early morning and resumes again in the afternoon. The face is flushed; the pulse full and bounding, sometimes dicrotic; the tongue is

furred. There is cough; and moderate jaundice and slight delirium may become manifest. In the mildest cases the symptoms are light and the fever ceases in about a week; in others it lasts for 10 to 15 days; in the severest attacks the temperature remains high and it may take three or four weeks to remit. Typhoid fever may develop, or it may take a pernicious form.

Pernicious Malarial Fever

This type, like the remittent form, is due to the aestivo-autumnal parasite. There is overwhelming toxæmia and the symptoms vary. There are three varieties: algid, comatose, and hæmorrhagic.

(a) **Algid Form.** The patient feels exhausted, and symptoms of collapse are seen. Coldness with perhaps no distinct chill and a normal or sub-normal temperature is the symptom of the algid form. There may be sometimes oliguria or anuria. This condition persists for several days and the temperature rises slightly. The patient dies of profound exhaustion.

(b) **Comatose Form.** It begins suddenly with high temperature. There is either delirium or coma. The patient dies or survives within 12 to 24 hours. Recurrent attacks are often fatal.

(c) **Hæmorrhagic Form.** There may be epistaxis, bleeding from the gums, intestinal hæmorrhage, hæmaturia, metrorrhagia, hæmatamesis and cutaneous ecchymosis. The attack begins with severe chill followed by high temperature and perhaps delirium. Urine may contain albumen. Hæmaturia is most common. It may be intermittent; or continuous, with remissions.

Malarial Cachexia

In this condition repeated attacks of some variety of the acute malarial fever occur, due either to treatment and nursing.

There is marked anaemia and enlargement of the spleen, sometimes also of the liver. The patient looks pale and thin, the face is of a dirty yellow tint, sallow, and cachectic. There may be no fever, or the temperature may vary irregularly from 99.4° to 103° F. Blood shows a decrease in red cells. Dyspnoea, palpitation, oedema of the feet and ankles, headaches and neuralgias are common. Chronic gastro-intestinal catarrh, vertigo, insomnia, tremor, paraplegia (excessively rare), slight cough, and painful stiffness of the muscles and joints may be present. Sometimes hæmorrhages may occur.

Complications

General complications are, in order of frequency, enteritis, nephritis, rheumatism, typhoid fever, lobar pneumonia, jaundice, and dysentery. More rare are paraplegia, hemiplegia, acute ataxia, and gangrene of the skin.

Relapses

The infection persists for several years, and the attack is preceded by an accident, a surgical operation, some other infectious disease, or childbirth. Between the attacks the plasmodia remain in the spleen or bone marrow. This period is a presumed resting stage.

Prognosis

In intermittent fever, always favourable with proper treatment. In the remittent type it is also the same, but death may occur in very severe cases from exhaustion or haematuria, anuria and uremia. In pernicious malarial fever the mortality is from twenty to twenty-five per cent.

Treatment and Nursing

The proverb, "Prevention is better than cure", can best be applied to this disease. We should avoid mosquito bites, which are the main cause of this disease, by using mosquito nets at night.

The patient should be kept warm during the cold stage, by applying hot water bottles and warm blankets. Complete rest in bed and hot drinks should be given. When sweating begins, the extra blankets should be removed and tepid drinks be given. The patient should be rubbed down with warm towels and have the wet clothes changed. The patient may then be fed, and allowed to go to sleep if inclined. The chief drugs prescribed are quinine and arsenic, which may be given by mouth, intramuscularly or intravenously. Rectal saline may be given every four to six hours.

Stimulants may be given, and sometimes opium is ordered. The patient should be given abundant nourishing food between the attacks, so as to keep fit. Strict attention is necessary regarding diet as it forms a very important part of the treatment. T.R.P. should be taken and charted regularly in the morning and evening, and in acute cases every two or four hours. Bowels should also be attended to, and any abnormality should at once be reported. Urine should be tested and reported. If there is vomiting it should be preserved for the doctor's inspection. During the high temperature, ice or cold compress should be applied to the head, or cold sponging be given, but the patient should not be exposed in any way.

Quinine is the specific remedy for malaria. It kills the malarial parasite in the blood. It should be prescribed in sufficiently large doses; small repeated doses have often little effect. Arsenic, in solution form, makes a useful combination when quinine is administered by the mouth. Other preparations of quinine, such as hydrobromide, acid hydrochloride, euquinine, and others, are also efficacious. Quinine when pushed too far, produces ringing in the ears, fulness in the head, and partial deafness, and hence it should be given dissolved in acid hydrobromic dilute, when it will not cause the evil after-effects. It should be continued for some time even after the disappearance of fever.

During treatment all exposure to cold should be avoided. If temperature persists, diaphoretics such as liq. ammon. acetat, spt. aetheris nit., potassium nitrate, and others, may be prescribed to reduce the temperature. For gastric irritation, mustard plaster may be applied to the epigastric region, and quinine is then given in small repeated doses. Potassium bromide and chloral hydrate are beneficial for delirium. Spleen and liver should also be properly attended to. A change of climate, especially to the seaside, is advisable in cases of malarial cachexia.