

should not forget the mode of life attained in Sanatorium and should continue the same even after discharge for several years. The nurse must teach the patient about prevention and infection of the disease. The patient should go and rise from bed early. The patient should be very careful after discharge.

MALARIA.

Mr. James Simon.

Malaria, one of the Tropical diseases, is transmitted by the bite of an anopheline mosquito. The malarial parasite, which is the cause of the disease, is a protozoa or an unicellular organism, which possesses two distinct life cycles. One, the asexual cycle, takes place in the human body and the other, the sexual cycle, in the body of an anopheline mosquito. When a man is infected through the bite of a mosquito, these malarial parasites, called the Trophozoites are found within the red blood corpuscles, in which these undergo multiplication by simple division. Eventually these parasite-laden red blood corpuscles burst, letting them free in the blood serum. Each of these new trophozoites enters into the fresh red blood corpuscles, and each in its turn undergoes the same cycle of multiplication. This sort of multiplication that occurs in the human body is known as asexual cycle or Schizogony. This phase of the rupturing of the corpuscles, when trophozoites are set free, coincides with a malarial paroxysm. Now and then certain cells known as sporonts are produced from a few of these trophozoites. They are two in kind, male and female sporonts. These sporonts can be fertilized and undergo sexual development only in the body of an anopheline mosquito. So next, when this type of mosquito bites an infected man and sucks blood, these sporonts enter the stomach of the mosquito. The male cells develop filaments and the female cells have a raised portion in which they have a fertilizing aperture. This union causes fertilization. As a result of this sporoblasts are formed, undergo development and burst, releasing innumerable sporozoites, which find their way to the salivary glands of the mosquito, and finally to the human being when he is bitten by means of proboscis of the mosquito.

Etiology. The predisposing causes are intemperance, exposure to night air, bad hygiene and general depression. The cause of this infection was first discovered by Laveran in the year 1880, and the discovery of the mode of transmission was one of the most brilliant achievements in all medicine by Sir Ronald Ross who after laborious examinations of different kinds of mosquitoes, determined that the Anopheline mosquito alone acted as Malarial Carrier. The anopheles mosquito is distinguished from other mosquitoes by spotted wings and by the fact that when at rest, the rear portion of the body is raised above the surface level on which they rest.

Geographical distribution. In Europe, Southern Russia and certain parts of Italy are now the chief seats of the disease. It is rare in Germany, France and England and the foci of the epidemics are becoming yearly more restricted. In the City of New York even

the milder forms of the disease are very rare. In India it is very prevalent, particularly in the great river basins. In Burma and Assam severe types are met with. In Africa the malarial fevers form the great obstacle to the European Settlements on the coast and along the river basins.

Pathology. The parasites develop in the blood and periodically rupture the red cells and a new brood of parasites is liberated. This is shown by rigor. The organs chiefly affected are spleen, liver, and brain. There is anaemia due to the destruction of the red blood cells, and the spleen becomes enlarged. Kidneys may become degenerated. When the brain is affected it is called Cerebral Malaria, and the capillaries of the brain are blocked by the parasites. In rare cases the liver becomes enlarged.

TYPES AND INCUBATION PERIODS.

1. Quartan.....21 days.
2. Terilan.....14 days.
3. Malignant or Subtertian.....8—12 days.

Symptomatology. The prodrominal symptoms are headache, anorexia, muscular pains and malaise.

THE BENIGN, TERTIAN AND QUARTAN PAROXYSMS.

The Cold stage. Patient has yawning, shivering, teeth chatter, the face is pinched, blush and cutis anserina (goose flesh) are present. Pulse is small, of high tension and frequent. There may be vomiting. This stage lasts from 20-60 minutes.

The Hot stage. Feeling of intense heat, headache increases, face is flushed, dry tongue, pulse is full: nausea and vomiting, and in some cases delirium may occur. Fever rises up to 105° 106° F. This continues from 1 to 4 hours.

The sweating stage. It is the stage of perspiration which takes place first in the forehead and then all over the body. The patient feels better. The temperature is about normal. This lasts from 1 to 3 hours. The whole attack may therefore last from 8 to 12 hours. But the definite stages are not always found. In malignant malaria there is no paroxysm, but there is constant fever. The patient feels sick all the time and does not have a well day. The benign infection may become a multiple infection, in which case there may be rigor and paroxysm daily. Malaria in the early stage, is an intermittent fever. In the tertian variety fever comes every 48 hours. In the quartan every 72 hours, and in the malignant form the fever is irregularly continuous, or daily.

Complications which occur chiefly in the malignant type are:—

1. Cerebral (Cerebral malaria)
2. Bilious vomiting, Jaundice.
3. Pneumonia,
4. Cardiac complications.
5. Blackwater fever.
6. Anaemia.

Prognosis. 2 to 10 per cent of the cases are fatal in the Tropical Countries, but in the malignant form 25 per cent may be fatal.

Treatment. The patient should be kept at complete rest and given a liquid or soft diet. The bowels should be moved freely. Quinine is a specific remedy against malarial infection. Experiments have shown that the parasites are more easily destroyed by Quinine at the stage when they are free in the circulation. The Quinine should be given either in solution or in capsules. The pills or compressed tablets, are more uncertain as they may not be dissolved. Euquinin in the same dosage may be given to patients with whom Quinine disagrees. In cases of Austro-autumnal fever with the pernicious symptoms it is necessary to get the system under the influence of Quinine as rapidly as possible. For malarial anaemia Iron and Arsenic are indicated. In malarial cachexia the patient should have a change of climate, have a liberal diet and have Quinine in small doses for some time. Quinine is an alkaloid of Cinchona, given thrice daily, from 1 to 10 grains, preferably with some alkaline like Sodium Bicarbonate. This is kept at a maximum dose for one week, then reduced to twice a day for 3 or 4 days, and once daily for three more days during nights. Quinine Dihydrochloridum, from 5-10 grains can be given either by intramuscular or intravenous injection.

Other drugs used in the treatment of malaria are Plasmoquin given in doses of 0.01 to 0.02 grames, and Atebrin in doses of 0.1 to 0.3 grms. by intramuscular injection is found to be one of the most powerful antimalarial agents.

Preventive measures. Mosquitoes can be prevented from breeding by

1. Drainage of stagnant waters in swamps, ponds, lakes etc.
2. Oiling the surface of stagnant pools and even upstreams. The larvae cannot breath as the oil covers the surface of water, and they die of asphyxia.
3. Using fish which will eat up the mosquito larvae.
4. Protection by screening houses and screened vestibules decrease the chance of access of mosquitoes. Mosquito nets over beds are found to be a failure at times chiefly because few persons sleep throughout the night without the arms or legs coming in contact with the netting on which they settle.
5. Lastly the disease may be prevented by the timely administration of Quinine.

I hope you will be much interested to know how Quinine became so widely known. In England, during middle ages, there were many epidemics of malaria, one of the most serious of which occurred in 1557 and 1558. In 1658 Oliver Cromwell died of fever at White Hall. The fight against Malaria was a serious European question in the seventeenth century, as is indicated by the anxiety shown to obtain supplies of Cinchona bark. When exactly and by whom it was first brought to Europe cannot be established with certainty. It is however generally assumed that the first importation took place in 1640. According to tradition John De-Vaga, the physician to the Viceroy of Peru, cured Count-del-Cinchon, wife of the Viceroy in 1638 by means of Cinchona bark, which he obtained from the Governor of Loya. After her recovery the Countess returned to Spain in the

spring of 1640, taking with her a supply of the precious bark, with the object of distributing it among the sick in her husband's estates, and making its valuable properties known in Europe. This powder was at first called "The Countess Powder" or "Pulvis Comitissae". After 1640 Cinchona became widely known. As early as 1640 Professor Barba of the Valladolid Academy published a pamphlet advocating the use of Cinchona as a remedy for fever. The nature and effect of Cinchona were carefully investigated by the command of the Pope Innocent X. These investigations were carried out and resulted in favour of the drug. Moreover in 1649 a considerable supply was obtained from Peru, and a meeting of the Order being then held and provided a suitable opportunity for distributing the powder far and wide.



THE HEALTH VISITORS' LEAGUE SECTION

The Honorary Secretary of the League, Miss M. Raynor, Red Cross Buildings, Egmore, Madras, will gladly receive reports and articles for insertion in this section.

A DAY IN OUR VILLAGE WORK

By Miss G. NONGKHLOV, Student at the Sir John Anderson Health School, Calcutta.

During our village training, one day we went to visit a far-distant village called Gangrai, in a dinghy, to give lantern lectures. We started on our journey about 1 p.m. on a Monday and it took us about 3 hours to get there. It was very nice going along the canal in the dinghy and all the way we met crowds of villagers coming to the bazaar towards our own village, Khaurapukur, in those country boats, which they make out of a palm tree. When the tree is old, they fell it and hollow out the middle part. The root of this tree is bigger than the edge, so they keep the larger part in front and the smaller part at the back. Their boats were filled with many things to sell in the market, such as rice, vegetables, fish and fruits. In the evening time, the women row, when they go back to their homes, and in the morning time, the men row, because they want to reach the market in good time. When we saw the men sitting and the women rowing, we asked them why and they said that they all hired the boats so everybody must take their turn at rowing. It is very nice and pleasant to go in these dinghies. During the first part of the journey, we went through the canal, but after some time, we left the canal and went through paddy fields on both sides, nothing else but paddy. The way through the paddy fields is very narrow and all the time we were being whipped by the paddy. The water here is not very deep, because