

TUBERCULOSIS.

We are indebted to the League of Red Cross Societies (Geneva) for the following instructive article, specially interesting at the present time, when it would appear tuberculosis is on the increase.

1.—THE NATURE OF TUBERCULOSIS.

The Ravages of Tuberculosis.

Tuberculosis is one of the most widespread diseases. It strikes man, cattle, and domestic animals and flourishes in every climate. Egyptian mummies (5,000 years old) show traces of it.

In the country, as in the town, nobody is safe from this scourge which brings so much sorrow and suffering in its train.

But tuberculosis can be prevented—and it can also be cured. Its numerous victims are found above all in dark and overcrowded dwellings, among undernourished, and among overworked persons.

It has therefore to be fought at the same time with medical, economic and social means.

The Agent of Tuberculosis.

For a long time tuberculosis was thought to be hereditary. In 1865, Villemin succeeded in inoculating a rabbit with it, thus demonstrating its contagious character. In 1882, Robert Koch identified, stained and cultivated the agent which causes it—the tuberculosis bacillus—seen through the microscope as tiny rod-shaped forms three-thousandth of a millimetre long.

Although it is killed in 20 minutes by 70° of heat (pasteurisation), in a few instants by boiling, or in a few hours by the direct rays of the sun, it can resist cold and dryness for an almost indefinite period.

It is found in the sputum, saliva and pus of tuberculosis sufferers, and sometimes in the stools, urine, or blood. It contaminates their linen, bedding, clothing, and articles which they have touched with their mouth. When they cough or sneeze, or even when they speak, tiny invisible drops carry the bacilli as far as 1½ yards and these particles may float for half-an-hour before being deposited on the furniture or ground.

When dried, the tuberculosis bacilli are sucked up into the air by sweeping, draughts, and the movements of persons and vehicles.

The milk of cows infected with tuberculosis of the udder contains numerous bacilli. Their presence in the butter, cheese, or flesh is, however, exceptional.

Infection.

If infection by the bacilli is massive and frequent, the nursling succumbs to acute tuberculosis; the older child, the adolescent and the adult contract, generally speaking, a sub-acute or chronic tuberculosis.

If infection is light and repeated, the organism becomes vaccinated to a certain extent and develops a greater resistance to tuberculosis. Nevertheless, privations, fatigue, infectious diseases and pregnancy may impair this relative immunity and favour the development of chronic tuberculosis.

In towns, where everybody is exposed to the bacilli; in trams, cinemas, cafés and public places in general, the proportion of children who are relatively immune increases, according to age, until at 20 years of age it

is 60 per cent. and over. In the country, and among populations living in primitive conditions—where there are fewer opportunities of contact with tuberculosis bacilli—many people have not acquired immunity. If these come to live in towns, they are in danger of contracting active tuberculosis.

The Sources of Infection.

We have already spoken of infection by milk. Mention should also be made of infection through dogs, cats and parrots.

The most frequent source of infection, however, is the tubercular person himself. So long as his so-called "closed" lesions are not in contact with the exterior, he is harmless to others.

However, as soon as the saliva and sputum contain microbes, there is considerable danger, if the tuberculous person kisses his children, shares his bed with them, or his glass, his spoon, if he coughs or speaks without protecting his mouth with a handkerchief, or if he spits on the ground. Those most in danger are new born infants and young children who crawl on the floor, where they put their toys and frequently put their dirty fingers in their mouths.

Some people, who think they have bronchitis or asthma, have a continuous cough; in reality they are suffering from a form of tuberculosis, which nevertheless does not prevent them from leading an active life and living to a considerable age. These people are constantly infecting successive generations of children in their neighbourhood.

Predisposition.

A delicate constitution may be inherited; a flat chest, weak respiratory muscles favour the development of tuberculosis.

Furthermore, overcrowded, dark, stuffy, badly-ventilated dwellings, lack of proper food, lack of exercise, air and light, over-fatigue, late nights, over-indulgence, alcohol and various poisons prepare the ground for tuberculosis. Promiscuity and dirt aid infection. For these various reasons, tuberculosis is much more frequent among the poor than among the rich. The number of its victims rises as soon as war or other scourges bring about food restrictions.

Lastly, measles, whooping-cough and influenza, on the one hand, and puberty, pregnancy and confinement, on the other, may hasten the development of a tuberculous infection often unsuspected previously. The same is true of diabetes and of pleurisy, which, moreover, is often the first sign of tuberculosis.

The new-born infant is very susceptible to the tuberculosis bacilli; for this reason it must be entirely isolated from a tuberculous mother from the moment of its birth. This susceptibility decreases up to the age of 15 years, then is accentuated again. No age is immune.

Persons engaged in certain trades show a particular tendency to tuberculosis: waiters, bakers, quarry-workers, and all workers exposed to silica dust. Generally speaking, conditions in industry increase the frequency of tuberculosis among young men, and above all, among young women.

Frequency of Tuberculosis.

About two out of a hundred persons suffer from tuberculosis, and a third of these cases are contagious.

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