

There is a "suffocative type" where the patient suddenly develops a severe bronchitis and is "drowned" in the excessive mucus in his bronchial tubes. In this form, in adults, death may occur with startling suddenness, and the whole course of the disease, from onset to death, may be appallingly short.

There is a "hemorrhagic type" associated with bleeding under the skin and with bleeding from the nose or bowels. This is "hemorrhagic measles," or the so-called "black measles."

The fact that some of our soldiers at Trentham Camp died from pneumonia following measles, from the "typhoid type," from the "suffocative type," and from the "hemorrhagic type" shows that the outbreak, though mild and gently warning in its initial stages, became dangerous and ruthless at a later period.

INFLUENZA.

Measles is frequently associated with true influenza, and the gravity of the former is always increased in the presence of the latter disease. "That two or more infectious diseases are capable of running concurrently in the same individual is not so generally recognized as the frequency of its occurrence would warrant" is a statement made by Dr. Foord Caiger, one of the greatest authorities on infectious diseases. When dealing with an infectious outbreak in a camp or barracks this medical observation should be carefully remembered.

Influenza is characterized by the extreme suddenness of its onset. It is relentless and swift in its attack, and the strongest men may be struck and overwhelmed. It has a very short incubation-period of two to five days, and the sick man is capable of conveying contagion for six or eight days and frequently very much longer. Influenza is a contagious disease, and is associated in a marked degree with such sequelae as bronchitis, laryngitis, and pneumonia. In civil practice a very large number of pneumonias are associated with influenza, and the sinister partnership means a sharp illness. The influenzal organisms are the field artillery scattering bursting shrapnel and preparing the way for the solidly attacking infantry battalions of pneumonia organisms. In the Trentham Camp influenza patients not only developed pneumonia, but also cerebro-spinal meningitis.

CEREBRO-SPINAL MENINGITIS.

Cerebro-spinal meningitis, cerebro-spinal fever, and malignant purpuric fever mean one and the same disease. It is sometimes called "spotted fever." It was not recognized till the beginning of the nineteenth century. In the nineteenth century two sweeping epidemics of this disease occurred in Europe, and three in the United States. In Dublin an epidemic attacked the troops and civil population in 1866. During the American War of Secession (1861-63) the epidemic spread widely. The epidemic at times has assumed "continental" dimensions, and has swept from one country to another. One military medical writer in England has written recently, "At the present time cerebro-spinal meningitis is a disease of the greatest moment because of its intense virulence and great rapidity of progression, and also because of its infectious nature. An early diagnosis is of the greatest importance, for it gives better hope of recovery to the patient, and also lessens the danger of the spread of infection, as it enables immediate attention to be given to the disinfection of quarters and isolation of contacts, matters of vital importance where moving troops are concerned."

Instructions have been issued to all doctors by the Local Government Board in England, and by the Inspector-General of Hospitals in New Zealand (Dr. Valintine), directing very special attention to (1) immediate diagnosis of the disease, (2) isolating patients suffering from it, (3) disinfection, (4) supervision of "contacts" and "carriers." The active causal agent in cerebro-spinal meningitis is the diplococcus intracellularis, commonly called the "meningococcus." This organism is present in the throat and naso-pharynx of those suffering from the malady, and is also present in the cerebro-spinal fluid—the fluid bathing the brain and spinal cord. Bacteriologists can isolate this organism and certainly establish the diagnosis, for on the speedy recognition of the disease depends the cure of the patient. For treatment a serum is in use. The best preparations are Flexner's and Jobling's. This serum is passed into the spinal canal through a hollow needle inserted in the back between two vertebrae. An early recognition of the disease and the employment of the serum give a large percentage of recoveries. Flexner obtained 82 per cent. of cures in cases treated within three days with his serum. In cases not treated by serum he found 74 per cent. of deaths. One writer with a large experience of this disease has written recently that "it is extremely likely that nearly every case except the most toxic or fulminant would be saved if the serum is given at the onset, or on the first day."