

Some few enlightened minds, noting the regular course of the illness, its sudden onset, and well-defined sequence, its sharp crisis, and the marked, immediately general improvement following, especially in cases where the consolidated areas in the lung showed little or no alteration, came to the conclusion that this was no local inflammation, but a general infection. Fränkl, following immediately in the footsteps of Friedländer, isolated what we know as the Pneumococcus, the true, though not the sole, cause of pneumonia, in the sputum of pneumonia patients. The organisms occur usually in pairs surrounded by a capsule, occasionally in strings or chains. They are always present with us, in the throat and mouth of healthy persons. But something is necessary, before a condition of general infection is produced. The required factor is a condition of depressed vitality, from cold or other causes. We were not very far out after all, when in the old days we spoke of pneumonia as the result of a chill. Without the depression caused by the chill, our guest could never have become our enemy. At the same time, we must bear in mind that the rigor which ushers in pneumonia is the result not of the chill, but of the infection.

The pneumococcus, taking advantage of a weakened power of resistance, either because it is exceptionally virulent, and it is curious that it is more virulent in winter, or because it has passed into the lung direct through the respiratory passages, multiplies with immense rapidity, setting up there a general bacteriæmia with widespread inflammation. As a rule, the struggle in the lungs is sufficient to prevent the ingress of the microbes into the blood and other parts of the body, and if the patient dies he dies from the immediate action of the microbe itself in the lung. There is, however, a less usual though more uniformly fatal manifestation of the disease, seen most frequently in young children, but from which men in middle life are not exempt, where the toxins manufactured by the pneumococcus attack the heart, and death follows in a few hours. With young children it has been known to occur within six hours of their being perfectly well, from collapse consequent on profound toxæmia.

We have been accustomed to associate pneumonia almost entirely with the lung and its covering, and primarily this is true. But the complications caused by the pneumococcus concern the brain, throat, heart, stomach, intestines, kidneys, and peritoneum. Next in importance to the actual lung complications, including those affecting the pleura, stand those which touch the heart.

#### COMPLICATIONS.

The lecturer gave statistics of the complications occurring in the course of a series of 1,402 cases, with a mortality of 602. Of these 1,047 were males, following the known rule that the incidence of pneumonia is largely in excess in the male sex.

To serous pleuritic effusion no grave importance is to be attached, tapping is rarely necessary, and the vast majority of cases recover. Possibly it may be, as herpes of the lips has long been held to be, of favourable import. Of 48 cases noted, one only succumbed.

Empyema, on the other hand, for which pleuritic effusion is occasionally mistaken, is a most common and most serious complication. Seventy-three per cent. of the cases under consideration died. It is, whether occurring after a *recognised* pneumonia or not, almost always a result of pneumococcus infection. In practice we all know the miserable appearance of its victims, the extreme emaciation, yellow, anxious face, unilateral breathing, clammy perspiration. We should look for this complication after the crisis is past, the temperature rising again usually within a few days, and assuming marked hectic character.

Gangrene of the lung is a rare complication, but recovery from it is equally rare. The fœtor both of breath and sputum is almost unbearable.

Abscess of the lung was found in one case only; but, since it is extremely difficult to diagnose, and often escapes diagnosis altogether, no conclusions can be based upon known facts. Chronic pneumonia is not usual, but if cases of delayed resolution be included 21 cases were noted, recovery ensuing in all.

The following interesting private case, having a duration of 20 months, illustrates the complication. A doctor returned home wet through and chilled, after two cold drives and a railway journey. He slept well. During the course of operations on the following day he was twice seized with a rigor, and found the temperature to be over 103 deg. That night a swelling occurred over the lower jaw, then followed extreme pain in the right side, effusion, and rusty sputum containing pneumococci. The swelling being evacuated of cheesy matter, gave no further trouble. In a fortnight he was better, though some dulness remained at the right base. He was shortly afterwards pronounced well. For three months he remained weak and thin, with a cough, the breath on coughing, though not the sputum, being unpleasant. He then had two attacks of hæmoptysis, at some time from each other, the last a severe one, during and after each of which the fœtor disappeared, to

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