

lungs were sound. The other child had a benign angina. On the second day after his entry, measles appeared, and his temperature kept up to  $102\frac{1}{2}$ - $104^{\circ}$ . On the eighth day, an abscess formed in the neck, which sloughed. The child died with nose-bleed, hæmorrhagic diarrhœa and broncho-pneumonia. From what precedes, therefore, we think we are justified in concluding, that every pure diphtheritic angina can be cured if treated in time."

"(b) Associated anginas. These are recognized when the sowings of false membranes on coagulated serum give, along with the specific bacillus, numerous colonies of other bacteria. The principal kinds are associations of diphtheria with micrococci, staphylococci, and streptococci.

"1. Association with the micrococcus, nine patients, no deaths. The association of this coccus with diphtheria is always benign. The serum was injected in doses ranging from 20 to 40 cc.; once only we gave 60 cc. Six times the little patients had hoarse cough, with difficult respiration, for the anginas in which this coccus is present tend to extend to the larynx.

"Albuminuria was noticed twice. As complications, we noted a measles, which appeared the sixteenth day after the patient arrived at the hospital, and two scarlatina-form eruptions, without fever, appearing during convalescence."

2. "Association with the staphylococcus pyogenes: These anginas are severer than the preceding ones. We had five patients, all of whom recovered. This form of diphtheria lasted longer than the pure anginas; the quantities of serum employed ranged from 30 to 50 cc. The temperature in these cases was always high; three times it exceeded  $103\frac{1}{2}$ ; the serum caused a rapid fall. The pulse, which at first is very frequent, soon drops to the ordinary figure. When the staphylococcus is present in diphtheritic false membranes, respiratory troubles, with a tendency to broncho-pneumonia, are common. In our patients these all cleared up. Three children had hoarse cough; two, difficult respiration. Albumen was noticed in four cases out of five. As complications, we noticed a scarlatina concomitant with diphtheria, and a rebellious rhinitis, which took one month to cure.

"3. Association with the streptococcus. These cases are the gravest of all. We treated thirty-five patients of this class with serum, and had twelve deaths, a mortality of 34.2 per cent. Four children died in less than twenty-four hours after entering the hospital. Deducting these, there remain thirty-one cases, with eight deaths, a mortality of 25.8 per cent. In diphtherias complicated with the streptococcus, larger doses of serum must be given, particularly at the beginning, and the injections should be prolonged; the quantities used vary from 20 to 75 cc.

"The duration of the disease is longer; the children who recover remain at least fifteen days at the hospital. By using the serum, the general symptoms, which are always grave in these cases, have been notably improved—the pallor of the face was less frequent and less marked.

"The false membranes separate more easily. The glands cease to enlarge if the injections are sufficient. In nine cases the glands were thickened and of enormous size. The temperature is high; twenty-six times above  $102\frac{1}{2}$ , nine times above  $100\frac{1}{2}$ . The serum did not produce the rapid fall we had noticed in cases of the other classes; rapid defervescences were rare—only three cases. The temperature fell by lysis. The pulse ranged from 120 to 140 per minute. During the first two days of treatment, if the disease is going to terminate favourably, the pulse drops to 120, and keeps at that rate a good while.