

twenty-four supposed cases of diphtheria, and in none of them did he find the Klebs-Lœffler bacillus. They were cases of scarlet fever and measles. In 1892, Prof. Baginsky, of Berlin, had tube cultures made of all the cases admitted into the hospital during a certain period, with a diagnosis of diphtheria—one hundred and fifty-four in all. In thirty-six of these cases the Klebs-Lœffler bacillus was not found, but numerous colonies of streptococci.

In May, 1892, Monsieur Martin, of Paris, published an analysis of two hundred cases of supposed diphtheria. In seventy-two the Klebs-Lœffler bacillus was not found; and there was a history of exposure to the contagion of scarlatina or measles. In May, 1892, Dr. Booker, of Baltimore, published the history of twenty-two cases of throat trouble which occurred during a scarlet fever epidemic, some with pseudo-membrane, some without. Eleven cases were undoubted scarlet fever with pseudo-membranous angina. One case had a pseudo-membranous angina similar to that in the scarlet fever cases, but without the exanthem. Two cases had measles without pharyngeal affection, but with pseudo-membranous laryngitis. One of these cases died.

In all, microscopical examinations and tube cultures were made, but no Klebs-Lœffler bacilli were found. He remarks in closing, that the opinion has been held that when the pseudo-membrane appeared during the late stages of an exanthem, and continued after the disappearance of the rash, it, *i.e.*, the pseudo-membrane, was diphtheritic. Even where this sequence was observed in his cases, the Klebs-Lœffler bacillus was not present. The explanation he offers is the comparative freedom of Baltimore from diphtheria at that time.

In November, 1893, Williams, of Boston, in the *American Journal of Medical Science*, has an exhaustive article on this subject. He states that during twenty-four months' service at one of the city hospitals, he had seen two hundred and thirty-two cases of scarlet fever. Of these, fifty-eight had pseudo-membranous inflammation of the throat, and in a few the membrane had extended to the larynx. In a large number of the cases microscopical examinations and tube cultures had been made, but without finding the specific bacillus.

I might continue quoting authorities on this subject, but enough has been said to prove that all cases of pseudo-membranous angina are not diphtheritic. With the idea of emphasizing the change in professional opinion on this point since the discovery of the specific bacillus of diphtheria, allow me to quote an article by Sir John Rose Cormac in the 1884 edition of *Quain's Dictionary*. Writing of the diagnosis of diphtheria, he says: "Pathologically, there can be no diagnostic difficulty in these cases, if it be true, as an increasing number of physicians believe, that membranous sore throat is always diphtheritic."

Even in the 1889 edition of Eustace Smith's work, the writer speaks repeatedly of diphtheria as complicating scarlet fever, but suggests in no way the possibility of these complicating pseudo-membranes being non-diphtheritic.

Is there, then, any clinical method of distinguishing between the pseudo-membrane associated with scarlet fever and caused by a streptococcus, from the pseudo-membrane of true diphtheria?

The answer to this has been already stated, and it depends on the period of the disease at which the membrane makes its appearance. If the membrane appears during the early and active period of scarlet fever, the probabilities are that it is not