

*Incidence.*—During a period of eighteen years (1889 to 1907) there were 805 cases of pneumonia in the medical service of the Johns Hopkins Hospital. Among these were 29 cases of empyema (3.6 per cent.) and 30 of delayed resolution (3.7 per cent.), showing an almost equal incidence of the two conditions. In addition there are 10 other cases of delayed resolution admitted after the attack of pneumonia was over, so that 40 are available for study.

*Occurrence.*—A point of interest is the number of cases in various years. This shows a much smaller number of cases in the first half of the eighteen year period. Thus from 1889 to 1898 there were 5 cases of empyema and 8 of delayed resolution, while in the next nine years there were 24 of empyema and 22 of delayed resolution. An explanation of this is not easy to give. An increase in the occurrence of empyema has been ascribed to the frequency of influenza, but the years of the great influenza epidemic show very few cases of empyema in this clinic. One striking thing is the agreement in the occurrence of empyema and pericarditis. The years with the maximum figures (1900 and 1905) were the same in each, which rather suggests some special strain of the causal organism as an important factor.

The question arises as to whether empyema should be regarded as a complication or sequel of lobar pneumonia. The study of this series suggests that the former is the rule in the majority, although it may sometimes be a sequel and arise long after the pneumonia is over. The points suggesting that empyema is usually a complication and present before the termination of the pneumonia are: (1) Its recognition during the progress of the pneumonia, as in three cases of this series, one being recognized by aspiration and two at autopsy. (2) The study of the temperature charts, which showed that in only one patient was there normal temperature for more than twenty-four hours after the termination of the pneumonia before the fever due to the empyema began. This interval was only three days and in the majority the temperature never reached normal. (3) The physical signs, if carefully followed with empyema in mind, may show changes suggestive of it at the end of the attack of pneumonia.

*Etiology.*—As to the real causes which determine either condition we know little. The wonder is not that empyema occurs but that it does not occur more frequently, when we remember that pneumococci are probably always present in the pleural cavity. Delayed resolution depends on the absence of the ferment action which usually liquifies the exudate and so allows its absorption. Why this is lacking we do not