

The early employment of bacterins has not seemed advisable or beneficial, though in a few cases it was tried and did no harm.

7. IODINE. Observations as to the value of iodine (in colloidal and other forms) as an adjuvant in cases with extensive lesions and tardy defervescence, are as yet too few to be conclusive, though on the whole they seem to indicate a favorable action.

8. INDIVIDUALIZATION. In all features of the treatment there must be careful *adjustment* of means and measures to the *special needs* of the *particular patient* at the *moment*. One must not only know when and how to use medicines; but also watch and know when to *withhold* them. All the measures mentioned are not to be applied in every case. In most cases but one or two will be needed; but in some cases at one period or another, several may be indicated, and one must not fear to use them. Routine is inferior to discretion. Too much is worse than too little, but too little is not good. The aim is to be "just right."

EXPERIMENTAL.

Clinical observation has emphasized on a large scale—not merely in isolated instances—two facts in regard to the action of quinine in the pneumonias: (1) The conversion of *defervescence* from crisis to lysis; and (2) the virtual absence of *cinchonism* under repeated doses, at times enormous, of an active cinchonic. Adding to these the invariable abatement—if not suppression—of toxic symptoms, the inference is natural that the drug acts as a *chemical antitoxic*. In other words, there seems to be *reciprocal neutralization* between the drug and something in the patient's body. Quinine overcomes the pneumonia poisons and the pneumonia poisons protect against quinine. This view is confirmed by the fact that despite the relief—sometimes wonderfully prompt and complete—to symptoms, the physical signs pursue the ordinary course, indicating that quinine does not affect in an appreciable degree either the evolution or the involution of morbid tissue changes. Rontgen ray studies and autopsies show this to be the case. Also, the occurrence of pneumococcus empyema in a certain proportion of cases and the continued findings of viable pneumococci in the blood and sputum, seem to confirm the opinion that the greatest value of the drug *does not depend upon its germicidal* action.

These views have long been before the profession, but only recently has it been possible, through a generous subvention from Mr. Samuel Fels, of Philadelphia, to undertake experimental studies to test and determine the facts with reference to the three distinctive types of pneumococci.