

wall, puncture of the pleura as by instruments, compound fracture of a rib, bursting of a sub-phrenic, mediastinal or retropharyngeal abscess, together with the not unknown infection of the pleural surface by the colon bacillus, are conditions which every now and again call for comment in the journals.

The early differentiation of the serous from the purulent variety is often of value in the treatment selected. In ideal cases the higher temperature and signs of toxic poisoning may give a clue in a general way, but many an empyema has been overlooked from the absence of these symptoms and only when a necrosis has been set up sufficient to rupture into a bronchus or intercostal space, is the purulent nature of the mischief recognized. This difficulty of diagnosis brings us to consider a most useful measure when used as diagnostic chiefly—aspiration. With, perhaps, an hypodermic needle one may draw off a few cubic centimeters of the exudate and so be convinced by ocular demonstration of the true nature of the case in hand.

The results thus obtained are not always trustworthy as the following possible happenings clearly prove:—At the first aspiration a serous fluid let us say is withdrawn, examined with microscopic aid and culture growth attempted, all with negative results. Persistence of untoward symptoms may require a second test and at this repetition a purulent fluid is withdrawn. Naturally the temptation arises to doubt the efficacy of even the most rigorous aseptic measures, or a grain of comfort may be had if we suppose the formerly sterile, tuberculous (?) fluid has at last turned purulent by the invasion of other organisms. Or, again, a large effusion may exhibit layers of density greatest at the bottom, least towards the surface; one part containing the pus cells and bacteria, the other serum with few cells or none. Facts such as these have led Holt in his consideration of empyema in children to state that he has seen but one case of a serous exudate turning purulent. All other cases in his practice exhibited pus at the first aspiration. So far as I know this is an unique record and may speak volumes for its technique. This noteworthy exception aside, few observers have just right to regard their technique as beyond question.

Should the serous exudate contain free bacteria there arises the nice point of probability of future pus, for the staphylococci have been isolated from non-purulent exudates. These staphylococcal cases are cited as of possible tuberculous origin if there is no direct evidence of other tuberculous affection. They tend to heal rapidly after a single puncture (or incision of the chest wall) in a manner closely allied to the tubercular peritonitis. Having glanced at our most ac-