

fore removed by the aspirator, and probably the cure was so effected more rapidly and completely than would otherwise have been the case.

In cases where there is reason to suppose that the effusion is purulent, and it generally is so when it occurs in connection with scarlet fever or erysipelas, and often where the lung is diseased, it is better at once to remove it. In the second case it was thought most probable that the effusion was purulent from the co-existence of pulmonary disease, the probably long duration of the effusion and the severe constitutional disturbance, and the pleura was therefore punctured without delay. The suspicion as to the nature of the effusion proved correct and considerable improvement in the condition of the patient immediately followed its removal. In both these cases the fluid was removed by aspiration, the instrument employed being one constructed on Potain's principle, in which the cavity is evacuated, by atmospheric pressure into a bottle from which the air has been exhausted by an air-pump. I have however more frequently seen the operation performed with the common trocar and canula. There is, however, great danger of the entrance of air into the pleural cavity when the common trocar is used, and this I should certainly prefer to avoid, though I have many times known it occur without any serious evil resulting. Whatever be, however, the means adopted for the removal of the fluid, it is, I think, desirable that the cavity should be emptied somewhat slowly, in order to allow the lung gradually to expand, and the heart, if displaced, to return gradually to its normal position.

The effect which follows the removal of the fluid where paracentesis has been practised varies with the time during which the effusion has existed in the pleural cavity and the nature of the effused fluid. If it has followed acute or subacute pleurisy of only short duration, there is an immediate improvement in the condition of the affected side. The movement returns to a more or less marked degree, and if the heart or liver has been displaced, they resume very much their normal positions. The entire dullness on percussion sinks to a lower level, and the vocal fremitus is again to be felt in the more resonant parts, and the respiratory sounds

become audible over a larger portion of the chest, extending from above downwards and from within outwards, but the resonance on percussion still remains impaired and there is more marked dullness at the lower parts of the side; the side also is usually somewhat contracted; but these signs disappear as the portion of fluid remaining becomes absorbed and the lung becomes more completely expanded, though they do not generally disappear entirely till a considerable time has elapsed. It is rare that after the fluid is removed there is any marked friction to be heard, though when the cure is effected by absorption, there is usually very distinct friction to be heard, followed, as the cure progresses, by the modification which has been termed the stretching sound.

If, on the other hand, the effusion has been of long duration, the result of chronic disease and purulent in character, the amendment which follows the puncture of the chest is generally much less marked and rapid. There is usually more persistent dullness on percussion with defective respiration and imperfect movement and the decided dullness in the lower anterior, posterior and lateral regions only very slowly passes away. If the heart has been displaced it often does not return to the normal position and there is usually very decided contraction of the side and this may be of long duration, though even in cases of this kind, there is often great improvement in the state of the side after a considerable time has elapsed.

In the third and fourth cases, an external abscess formed which communicated internally with the pleural cavity and being opened, afforded an outlet for the purulent accumulation. In one of them a rapid and complete cure followed. In the other, which was however, a very complicated one, there being serious lung disease and probably a communication between the pleura and bronchi, with other disease, the child died. When the effusion is not confined to a limited portion of the pleura, but involves the general cavity, the pus rarely penetrates the parietes or finds an outlet through the lungs till a considerable time has elapsed and the lung having been long bound down, or compressed, is incapable of being again expanded, and the cure can only be