

but little inconvenience. In all other cases active measures are necessary, and two methods present themselves for our consideration, viz., aspiration and free incision. In what kind of cases is aspiration to be recommended as a rational means of cure? There is no doubt that a certain proportion of cases recover after one or more aspirations, but these successes are confined to children only; these cases, it is well to bear in mind, would be also the most favorable subjects for free incision. Even in children, aspiration seldom succeeds, except when the effusion is localized. Of 120 cases of empyema in children, collated by Dr. Holt, of New York,¹⁰ only 21 were cured by aspiration, and in all but one of these the effusion was localized. These would probably have recovered even more rapidly by free incision, so that all they gained was the escape from the inconvenience of an open wound and the applications of dressings. Aspiration should therefore be confined to those cases in which the pus is slowly effused or localized; the process may be repeated if, after the first aspiration, the pus re-accumulates slowly, is more serous, and quite inodorous; a second aspiration should be done before much fluid accumulates to injure by distension any adhesions that may have taken place. If the results of aspiration are not satisfactory, free incision should be promptly resorted to, because of the liability of the lung to become permanently contracted by formation of adhesions and cicatricial thickening of the sub-pleural tissue. Many do preliminary aspiration in all cases, even if they have little hope of any good being done. This is unwise, not only because there is loss of time and increased liability of permanent contraction of lung, but also because, as Dr. Clifford Allbutt first pointed out, hectic fever often develops after aspiration. In all adults, and in the majority of children, the aspirator is of use only as an instrument of diagnosis, not of treatment.

In using the aspirator, the greatest care should be taken that all is done with strictest antiseptic precautions. The part to be punctured, the operator's hands, and the aspirator should be thoroughly cleansed and rendered aseptic. Before introducing the needle, it and the attached tube should be filled with antiseptic fluid, in order to prevent the possibility of the entrance of air containing any septic particles.

10. Med. News, June 4th, 1887.

Having determined that free drainage is necessary, where should the incision be made? what anesthetic used? what antiseptic precautions are to be taken? what is the best method of drainage? Is the pleural cavity to be washed out in any, or all cases? In what cases is excision of ribs necessary, or advisable? What additional means are to be adopted in chronic cases? These are all questions deserving of our most careful consideration. My time will allow me to touch briefly on only a few of them.

Some, with Marshall, advise that the opening be made well forward, near the sternum, in the 4th or 5th interspace, the usual seat of spontaneous perforation, on account of the thinness of the chest-wall here—there being but little muscular covering. Some, again, believing that drainage is best attained by making the opening as low as possible, as tapping a barrel low down best empties it, make the incision well down below the angle of the scapula. The majority of writers, however, recommend about the 7th or 8th interspace, near the posterior fold of the axilla, as on the whole giving the best results. This point affords ample facilities for drainage in recent cases, and is not liable to be occluded by the upward and outward pressure of the diaphragm. Just how, so high an opening drains the lower part of the pleural cavity is difficult to explain, but it is no doubt due to the elasticity of the lung and chest, and the upward pressure of the diaphragm. In making the opening, the liability of puncturing the diaphragm is a possible accident always to be borne in mind. It has occurred in several reported cases, in one of which the incision was made in the 6th interspace.¹¹ The accident is owing to the diaphragm being elevated and adherent to the chest-wall, instead of being depressed as usual. It is therefore advisable always to explore with the aspirator, to satisfy ourselves of the existence of pus, before making an opening; at the same time remembering that the needle may give negative results, on account of the thick consistency of the pus, or the occlusion of the needle by fibrinous deposit.

What anesthetic are we to use? Chloroform is safer than ether in this disease, both are probably more dangerous than in most other diseases. For the adult, general anesthesia is seldom required,

11. New York Med. Record, 30th Sept., 1886.