

the relief he experienced was immediate, and the temperature fell. This is a typical instance of the good effect of paracentesis in serous effusion, as the patient eventually made a perfect recovery. One of the most usual of objections, and which would if true be a grave one, is that thoracentesis in a case of serous effusion, by admitting air, is likely to cause suppuration to take place in the pleural cavity; but the case I have just narrated shows that this is not necessarily so, and it would be easy enough to collect innumerable instances in which a chest full of serum has been tapped more than once without altering the nature of the secretion; in fact, I am prepared to go farther, and say that it is possible to convert purulent effusion into a serous one, and a case recorded in the *Lancet* for December 6, 1873, will support this view. The notes are so interesting, and the treatment was so successful, that I venture to give an abstract.

Dieulafoy's aspirator was used in the first instance, and 106 ounces of thick inodorous pus were drawn off, and though there were no signs of the cavity becoming emptied, the operation was now stopped, as a violent fit of coughing came on. In a few days the fluid re-accumulated, and an incision was therefore made close to the former puncture, under a spray of carbolic acid. At least ten pints of pus, of the same character as before, were evacuated. When the flow had diminished sufficiently, a broad piece of drainage tubing, about four inches, was inserted into the cavity, and a very large dressing of muslin and water-proofing applied over the opening, and the patient was loosely surrounded with cotton wadding prepared with carbolic acid, in order to prevent the putrefaction of the discharge. There was a very profuse discharge during the first forty-eight hours, but no decomposition occurred; the quantity rapidly decreased, its character changed, so that on the sixth morning it was entirely serous. On the eleventh day the discharge had ceased, and the pleural cavity closed up. About three weeks later the patient caught cold, and effusion into the pleural cavity again occurred, which proved to be of a serous nature, and was twice drawn off by Dieulafoy's aspirator. The patient eventually made a perfect recovery.

In the second set of cases in which thoracentesis is required, the only *raison d'être* of the operation is that it should be done comparatively early, as "every day that passes increases the liability of the lung to become bound down to the mediastinum by false membranes."

I think that I may say, without fear of contradiction, that the modern school of medicine are unanimously agreed that thoracentesis should be performed immediately that the presence of pus in the pleural cavity is suspected, and, as I mentioned in last year's Reports, the suggestion made by Dr. Ringer to use the ordi-

nary morphia hypodermic syringe to clinch the diagnosis where the general symptoms and physical signs have been somewhat dubious, is most useful, and a great improvement on the grooved needle, as originally suggested by the late Dr. Thomas Davies.

Mr. John Wood gives the following directions for thoracentesis: "Tap in fifth or sixth space under the arm just above the rib, in order to avoid any projection from the rib and the intercostal artery. If you go to the lowest limit of dullness, you may perforate liver or diaphragm. First make an incision, draw the skin down, then introduce your instrument."

Trousseau advises "the sixth or seventh intercostal space, nearly four or five centimetres external to the outer edge of the pectoralis major."

It is better, however, to be guided to a great extent in the choice of the site for the operation by the physical signs as revealed by auscultation and percussion, and I do not see the slightest occasion for over-anxiety to tap at the lowest level of the fluid. Dr. Handfield Jones says, "I certainly prefer to find no breath-sounds in the spot where I am to plunge my trocar;" but he goes on to say that weak and distant breathing need not deter the operator, as lung-sounds can penetrate through a notable thickness of fluid.

*Whether the opening should be closed or left open.*—The rules which I have laid down for myself as regards this question, are as follow:

(a) Whenever the fluid is serous or sero-sanguineous, and so long as it continues such, I close up the opening, so as to prevent the entrance of air; and the best way to effect this is with carbolic plaster.

(b) If laudable pus be evacuated, I close the opening on the first occasion, in the hope that the little left behind may become absorbed; and even a second time I would try the effect of sealing up the orifice, provided the pus continued laudable, and only a small quantity had reaccumulated since the preceding operation. Should these twoappings not be followed by a cure, then there remains nothing but keeping the openings patent, and this must be done in any case whenever the pus is fœtid.

*If left open, by what means should the openings be kept patent?*

This is the question of all others in which I am most interested, as I feel certain that if the practice of making a counter-opening, passing a drainage-tube through, and tying the ends together externally, was more generally adopted, much greater success would attend the treatment of empyema. "Where only one opening is present, the pleural cavity may be likened to a barrel without a counter-vent, and the escape of the fluid must be irregular, and only partial." The plan of "drainage" as introduced by Chassaignac for the healing of sinuses,