

I have not been altogether free from such errors. There is, indeed, no single sign which invariably exists by which pleuritic effusion can in all cases be certainly diagnosed, and it is undoubtedly true that the characteristics of its presence on which we mainly rely may and often do lead us into error.

Let me say a few words in reference to the evidence we derive of the existence of effusion from *percussion*. It is obvious that any solid or liquid in the chest will give rise to dulness on percussion; and it can only be by the character of the dulness, or its shifting nature, that we can say that it depends in any case on pleuritic effusion. Undoubtedly there is usually—indeed in the great majority of cases—a profound character about the dulness which can scarcely be mistaken; but there are exceptional cases of extreme dulness without any effusion. You may recollect the case of B—, in No. 10 ward, who came to us with a history of pleurisy, and in whom we found dulness of a very leaden character over the whole of the left side, extending up to the clavicle, and passing to the extreme right of the sternum. The breath-sounds were absent below, and only heard faintly at the upper part of the chest; moreover there was absence of vocal vibration, and heart-sounds were faint and best heard to the right of the sternum. The presumption that pleuritic effusion existed was very strong, and it was thought desirable to ascertain the fact, so that if fluid were present some of it might be drawn off, and thus the urgency of the symptoms be relieved. A fine canula was accordingly introduced, and the aspirator was used, with the result, however, of drawing off only a few drops of blood. Not satisfied with one exploration, I subsequently repunctured the chest at a different spot, but the result was the same. The progress of the case showed its nature, faint crepitation was heard after a time, and death revealed to us the actual condition of the lung. It was more or less solidified throughout, and universally adherent to the chest walls; the pleurae were greatly thickened; and there were strumous deposits in the anterior mediastinum. These deposits had caused the dulness, which extended to the right margin of the sternum, producing thus a sign which, taken with the other signs, I had never previously met with in any lung disease except pleuritic effusion and cancer.

Again in reference to the shifting nature of the dulness, you must not, in diagnosing pleuritic effusion, depend too much on the fact, which I have often demonstrated in the wards, that the line of dulness varies according to the position of the patient. If the lung is perfectly free from adhesions, the fluid in the chest will gravitate to its lowest part, and the upper line of dulness will vary according as the patient is sitting or lying: but some of you will recollect the case of the woman in No. 15 ward in whom

we had marked dulness, with absence of breath-sounds in front, of the left lung reaching to the level of the second rib, with resonance at the back extending even below the angle of the scapula, and from whom we draw off, at the time these signs were present, a large quantity of pus.

*Auscultation* often affords valuable aid in the diagnosis of pleuritic effusion. Speaking generally, the breath-sounds are usually either absent or faint over the seat of effusion, but they may be also absent over an intensely solidified lung, or over one which is less solidified but adherent by very dense pleurae to the chestwalls, just as was the case in B—, to whom I have referred. Again the breath-sounds may be very loud, simulating those of a solidified lung when there is a large pleuritic effusion. There was a woman under the care of my colleague, Dr. Gylan, some time ago, in whom loud bronchial breathing was heard, both over the front and back of the right lung, where there was marked dulness, and yet, as was subsequently proved, a very large quantity of fluid existed in the pleural cavity. In children, again, the phenomena of bronchial breathing and bronchophony are often present, although the effusion may be great and I have met with other instances besides the one I have alluded to where loud breathing has been heard in adults. Moreover, you must not forget that in old standing cases of effusion the sound lung takes on increased action, the breath-sounds become puerile, and may sometimes be heard on the opposite side of the chest.

But to take another sign to which great importance is very properly attached. In pleuritic effusion it is undoubtedly true that *vocal vibration* is generally absent: that when the hand is placed on the chest whilst the patient speaks no thrill is communicated to it; and yet I have sometimes felt a well marked vibration over a chest from which I have immediately afterwards removed a large quantity of fluid. Some of you may recollect the case of A—, in No. 10 ward, who was the subject of empyema. In that case I pointed out to an assembled class that we had most of the signs of pleuritic effusion well marked—viz., leaden dulness, absence of breath sounds, etc. The man had been previously tapped and a considerable quantity of fluid had been withdrawn. We had watched the gradual reaccumulation of the fluid, and the time had come when I resolved to retap. Over the affected side—over the seat of leaden dulness, and where the breath-sounds could not be heard—there was distinct, well-marked vocal fremitus. An aspirator-tube was introduced, and we drew off ninety ounces of pus.

I removed, some time ago, two pints of serous fluid from the chest of a man in whom vocal vibration was distinctly perceptible, except at the extreme base of the lung—perceptible