

affected side, leaving a hollow under the ribs; and the opposite lung will be found expanded across the middle line, and often beyond the left margin of the sternum in left-sided cases.

These alterations of position are of great interest, and assist both your diagnosis and prognosis, for they help to establish the contractile nature of the lung changes, and such cases have on them the stamp of chronicity. The changes are due to positive retraction of the diseased lung itself, to necessarily lessened movements and diminished volume of one-half of the chest, and to atmospheric pressure. Such cases are of great importance in studying the physiology of the chest movements. By inspection alone, then, and palpation, you will have derived a great deal of information about your patient. From *percussion* you will further learn that there are patches of induration in various parts of the lung, perhaps at the base or middle of the lung at the back. Percussion, of course, will also show that the opposite healthy lung has been drawn over. The whole side is also duller than the opposite, but it is very dull around the base or in certain parts. *Auscultation* will show you that over these dull parts there are sounds indicating cavity, loud blowing with, perhaps, resonant voice, and even pectoriloquy with gurgle or cough. Pathologically we know that these signs may mean *dilated bronchi* or *cavities* in the ordinary sense. These excavations or enlarged tubes are found about the base or middle of the lung. They may be due to the ordinary extending ulceration of the lung or to a portion of indurated tissue breaking up, and very often to the death or gangrene of a portion of lung, whose nutrient vessels have in fact become strangled. As regards the dilated bronchi, they are caused by a loss of elasticity of the tubes and by a softening of the lung-tissue around them. Under such conditions the shock of cough, when often repeated, would produce dilatation of a portion of a bronchial tube. It has been noticed that pneumonia occurs in patches around these dilatations, and, indeed, the whole history of "fibroid" cases seems to be that of an indurating pneumonia in repeated attacks, and perhaps that variety which has been called "catarrhal" most commonly gives rise to this form of disease. You will notice

that the matters expectorated are often pigmented, blackish or green, and occasionally fetid and gangrenous. Lung-tissue will be found when microscopically examined.

The pathological examination of these cases gives, as you may expect, a contracted indurated lung, of a dark greyish-marbled colour. Its tissue is hard and pigmented, and obliterated tubes or vessels traverse it in pale lines. The bronchi are often dilated so as to resemble cavities. Cavities there are, too, formed out of cheesy masses and destruction of lung-tissue, just in the ordinary way of phthisical cavities. These cavities are well-lined with a membrane, and are themselves traversed by bands representing the strangled débris of vessels and bronchioles. They undergo contraction too, and, if small, may finally close, presenting that puckered appearance of cicatrices with which you are familiar. The alveolar walls are thickened by fibrous growth, and the air-cells are often obliterated. It is rare to find during life any true breath-sounds in such a lung, for the element of vesicular elasticity has been lost, and the organ is in time reduced to a hardened tough mass, permeated by bronchial tubes, in parts dilated into cavities. The pleura is commonly thickened and adherent both to the lung and the walls of the chest, and dense interlobular bands extend from it through the lung.

In tracing the-origins of this condition you will find but little evidence that it has a single starting-point, but much confirmatory evidence that it has various beginnings. It is very commonly seen after pleurisy, whether with or without effusion, in the earlier stages. Patients recover, of course, every day from an effusion of moderate extent, which may be rapidly absorbed, and leaves a slightly contracted side with resulting adhesions.

An inflammatory condition of both lung and pleura (pleuro-pneumonia, as it is called) is a more common cause; and should that block of lung be of a nature not easily liquefied and absorbed, it remains as a nucleus of fibroid degeneration. In considering pneumonia you will remember that I pointed out that if a hepatised or solidified lung does not resolve after the second month, the case is likely to pass into the phase of fibroid degenerative changes, and then