

pass through the pulmonary vessels of the healthy portions of the lungs. This, of course, creates a necessity for an increased number of inspirations per minute, to compensate for the diminution of pulmonary capacity, and also for the increased pulse-rate.

So long as the column of blood from the right side of the heart can pass to the left, regularly, evenly and continuously, admitting sufficient air for its oxygenation into the lungs, there need be only a few additional inspirations per minute, to compensate for the loss of breathing space. But when there is a failure to do this, either from inadequacy of cardiac power, or from excess of that power, or from some intervening circumstance, as œdema, excess of bronchial accumulation, and more venous blood accumulates in the healthy lung tissue than can pass to the left side, then true dyspnoea begins, with all its train of distressing consequences. So there is a marked distinction to be drawn between the laboured breathing of true dyspnoea caused by a sense of impending suffocation, and the simple acceleration of respiration necessary to meet the new rate of cardiac action. The action of those remarkable sedatives, veratrum and aconite, serves to illustrate this question in an interesting manner.

The primary therapeutic influence here is on the action and rate of the heart. When these have been reduced to within an approximation of the normal standard, though extensive pneumonic hepatization may exist, the respiration rate will surely fall correspondingly—the two keeping pace, as closely as in the abnormal rise.

**ŒDEMA OF THE LUNGS IN PNEUMONIA A CAUSE OF DYSPNOEA.**—Œdema of the pulmonary tissue is a very common factor in the causation of dyspnoea in this affection. To some extent, it doubtless exists in a majority of cases; but in certain instances it becomes excessive, when it proves a dangerous obstacle to respiration.

The forms of pneumonitis most prone to pulmonary œdema are the typhoid, malarial, and those cases associated with great blood impoverishment, as in anæmia and uræmia, the poisoning of pyæmia, and lastly, in mitral disease.

In malignant typhoid and malarial pneumonitis, œdematous effusion in the pulmonary tissue is often so sudden, rapid and overwhelmingly extensive as to cause the most alarming dyspnoea, and not unfrequently a suspension of respiration within a few hours after the first onset. This condition of affairs is not unfrequently confounded with active congestion, and the error is often acted on. In these cases, the primary effect on the pulmonary circulation is obstruction, then passive engorgement of the pulmonary circulation, excessive accumulation of venous blood in the right ventricle and auricle, and finally in the entire venous system, causing not unfrequently thrombosis of the pulmonary artery. We have here a state of affairs co-operating for the production of dyspnoea, more exquisitely painful and alarming than in almost any other form of this disease.

No one can witness such scenes as these cases present without appreciating the importance of the subject of its various causes, its serious bearing on the course and termination of pneumonia, and without entertaining a deep and earnest desire to afford relief from the suffering and danger which it entails.

**SPECIAL TREATMENT OF PULMONARY ŒDEMA.**—In the treatment of this condition of the lung, the combination of infusion of digitalis in full doses, with the tincture of the chloride of iron, and infusion of ergot, constitutes a valuable and efficient means of removing the effusion, and of improving the general state of both the circulation and blood. To this may be added, to render the diuretic action of the treatment more decided, the liquor ammonie acetatis. The value and efficiency of these remedies depends very much on their frequent repetition.

The application of revulsives, in the form of extensive dry cupping, and, if necessary to procure relief, over the entire chest, and, indeed, over both the diseased and healthy lungs, when œdema is excessive and the dyspnoea is very great, is invaluable. This remedy is equally applicable to the treatment of all the various conditions causing dyspnoea. Its action in relieving distressing dyspnoea, under these circumstances is often prompt and speedy.