

THE CANADA LANCET.

A Monthly Journal of Medical and Surgical Science
Criticism and News.

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VOL. XXIII.] TORONTO, NOV., 1890. [No. 3.

*The LANCET has the largest circulation of any
Medical Journal in Canada.*

Original Communications.

THE TREATMENT OF PYOTHORAX, AND THE MECHANICAL RESULTS OF OPENING THE PLEURAL CAVITY.*

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If there is any principle in medicine which is now well established, it is that pyothorax is to be considered as an abscess, and treated as all abscesses are treated when accessible, by efficient removal of the contents. In general terms it may be said that pus once ascertained to be in the pleural cavity, every hour's delay in evacuating it is prejudicial to the patient's chance of full recovery. The very few instances in which a purulent collection within the pleura has been removed by absorption, do not warrant us in taking the least account of such a possibility in any given case. Surgical interference, therefore, is imperative as soon as the diagnosis is made. This interference may be by simple aspiration, by puncture with the insertion of a drainage tube, or by free incision with or without excision of a portion of one or more ribs. Simple aspiration has been so often successful that it should be tried, as a rule, before subjecting the patient to a more serious operation. In children,

especially, it not infrequently happens that a single aspiration effects a cure. But there is no objection to repeated aspirations provided the progress of the case under such management seems to be toward recovery. The amount and character of the fluid removed at each operation, together with the general condition of the patient, will be the criterion by which we are to judge.

As soon, however, as it becomes evident that the case is not progressing favorably, resort must be had to means which will more thoroughly remove the pus. But in doing this it is evident that from every point of view it is most desirable to secure the greatest possible amount of expansion of the lung. It is important, therefore, that we consider whether this object can be promoted in any way by a choice in the operative measures employed. This involves the entire question of the mechanism of the respiration after the thorax has been opened. To understand this fully we must first examine the results of opening the chest of a previously healthy subject, as the principles involved are merely modified, not entirely changed, by the supervention of disease. Some twenty years ago, I had occasion to make extensive researches in this direction in reference to penetrating wounds of the chest, and in my present paper, I shall draw largely upon one which I published at the time, and, if I seem to include more than properly belongs to my subject, it will be because the observations have to be taken as a whole to be fairly intelligible.

When an opening is made through the chest wall, one of three conditions of the lung may result. It may collapse entirely, it may collapse partially, or it may retain its normal volume. Which of these results will follow, depends upon the size and the location of the wound.

Premising that I mean by complete collapse that condition of the lung, in which it is neither distended nor compressed by any extraneous force, but has simply the dimensions assigned to it by its own elasticity, I believe that this condition can occur only when the wound is so large as to nullify entirely the movement of that side, or on the other hand, when the wound has become entirely closed leaving the pleural cavity filled with air; and that in neither cases will it continue during both acts of respiration.

Let us suppose, for purposes of illustration, that.

* Read before the Ontario Medical Association, June, 1890.