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PARACENTESIS THORACIS;

A RÉSUMÉ OF TWELVE YEARS' EXPERIENCE.

BY

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In the *American Journal of the Medical Sciences*, April, 1852, I published an article on Paracentesis Thoracis, with cases. In January, 1854, I gave in the *American Medical Monthly* an analysis of twenty-five cases of the same. Still later I made further statements on the subject in the *Boston Med. and Surg. Journal*, 1857, and now I wish to give to the Society a brief *résumé* of the principal results of the operation, as performed 150 times on 75 persons during a period of nearly twelve years, viz., from April 17, 1850, to Dec. 17, 1861.

During the above period I have operated 150 times on 75 persons, and have seen other gentlemen operate on 10 more, making 160 operations on 85 persons.

Innocuousness of the operation.—I have never seen the least *permanent* evil resulting from any operation, and *only the slightest temporary* difficulties, such as pain, slight dyspnœa, stricture, or cough, &c. This, I think, shows the innocuousness of the operation by means of the exploring trocar and suction pump, as suggested by Dr. Wyman.

Frequency of the operation.—One lady (case formerly reported) I tapped 9 times during 8½ months; commencing when she was 4½ months pregnant, and in whom the orthopnœa was, several times, so great that death, I have no doubt, would have supervened within twenty-four hours, if the operation had not been performed. She is now tolerably well, but with a contracted chest, as is usual in chronic pleurisy.

In striking contrast with this case, as it regards the *frequency* of the operation, while resembling it in the number of times it was performed, was the unique case of an elderly man, very recently under my care, and in which I tapped eight times in six weeks! The patient himself, a physi-

cian, earnestly and even solemnly demanded of me the operation as a mere means of relief to intense distress. As he jocosely remarked on one occasion, he considered it one of his "luxuries."

Cases in which the patient recovered wholly.—Twenty-nine out of the seventy-five patients got wholly well, apparently in consequence, chiefly, of the operation. The operation was performed generally when severe symptoms were manifest, and I was called in consultation. In a few, a great quantity of fluid was recognized by the physical signs alone, the rational having been slight; but, as the disease was chronic, an operation was deemed necessary. In all these cases, the operations seemed the *first step* towards a cure.

The character of the fluid and its influence on the prognosis.—In 26 out of the 75 *serum* was found; and 21 of these patients got wholly well. If after the first operation the fluid becomes purulent, an almost certain fatal prognosis should be made. I have seen six such cases. Four of the patients died, two were lost sight of, but, when last seen, were failing.

Pus was found at the *first* operation in twenty-four cases. Once, it was of the consistence of honey, but I easily drew it through the exploring tube. Seven of these patients recovered wholly; seven died; nine were relieved one or many times; but they had either a long and tedious illness, terminating usually in phthisis, or a fistulous opening, or a still doubtful result.

A *sanguinolent fluid* at the first puncture (and by that I mean a dark red thin fluid, evidently stained with blood, though not coagulating) I consider almost certainly fatal, and a consequence of some malignant disease of the lung or pleura.

There were seven of such cases. In six the patients died. In one there was a doubtful result, but apparently fatal tendencies were commencing. If the fluid is found sanguinolent at the second or any subsequent puncture, I deem it of comparatively *little* importance towards the prognosis.

A mixture of *bloody purulent fluid* at the first operation is usually fatal. Three cases, all fatal, occurred.

A *fetid gangrenous* fluid is very rare, only one case having occurred, and that fatal; but in this case infinite relief from horrible orthopnœa was obtained, and it never returned, though the patient sunk and died in a few days. Gangrenous pleura was found.

I have operated once in *pneumo-hydrothorax* with temporary relief and comparative ease for several days. Many theoretical objections may be urged against the operation in such a case. To such objections I have simply to answer that, as the operation can do no harm and may give much relief, I shall operate again in any case where the dyspnœa may be so great as to require it.

Cases where no fluid is obtained.—Finally, in seven cases I got no fluid. These cases occurred usually in the earlier operations, and the failure was

often owing, I have no doubt, to the cautious and slow manner with which I plunged the trocar between the ribs, carrying thus the false membrane of the pleura costalis before the instrument instead of piercing it; so that a valve was really formed over the end of the canula. At other times I have little doubt that an error of diagnosis was made, and that instead of a fluid there was simply an unexpanded lung and thick false membranes on the pleura, causing as much dulness on percussion and absence of respiration as a fluid would have done. The differential diagnosis of the two was not, at first, quite so easy as it is now. Inspection usually is the test between the two conditions; the intercostals being distinct, and depressed when a membrane exists; but very indistinct and level with the ribs, or, possibly prominent, when a fluid occupies the chest.

Once an immense tumour occupied and uniformly distended one pleural cavity, and in its course presented all the phenomena, natural and physical, of simple pleurisy. I tapped three times, viz.: at the back, side, and front, at the same visit. No evil followed.

A member of this society asked me my experience as to the good results or otherwise in operations on the right side; observing, at the same time, that one European writer (Trousseau?) contended that pleurisy of the right side is often or always tuberculous. I could not answer definitely, although my impressions were against the truth of the assertion. On referring to the brief summaries, and not to the original notes of my cases, where I find the sides named in 25 cases, I find that in these the operation was performed with the following results:—

	Pleurisy of	
	Right side.	Left side.
Death	4 times.	5 times.
Cure entire, without symptoms of phthisis, except in one, but pleurisy was cured in that	9 "	4 "
Doubtful result	1 "	2 "
	14	11

These data do not exactly answer the question proposed; but if tubercles always or more frequently exist in pleurisy of the right side, we should, *à priori*, anticipate more unfortunate terminations of the operation of paracentesis of the right than of the left side. My experience proves exactly the reverse, and may be expressed, if deduced from the above table, as follows:—

Of 25 cases, 14 were of the right side, 11 of the left. Of the 14 of the right side, only one person is mentioned as having tubercles, and in that the pleurisy was cured and the pulmonary symptoms mitigated.

Of the 14 persons tapped in right side 28.57 per cent. died; 64.28 per cent. were cured, and 7.14 per cent. remained doubtful. Whereas, of the 11 cases of the left side, 45.45 per cent. died, 36.36 got well, 18.18 were doubtful

In other words, twice as many have got well from tapping the right as the left; and only half as many have had doubtful results from operations on the right, as in those where the left side has been tapped.

Hereafter, if my cases are any criterion wherefrom to judge, I shall regard an operation on the right side as much more favourable than one on the left; which I can hardly think would be the case were all right side pleurisies tuberculous.

When shall we operate?—Experience teaches me to operate in every case, however recent or chronic may be the attack, provided there is permanent or occasional dyspnœa of a severe character, evidently due to the fluid. I have, of course, more hope of doing good where the disease has not been of too long duration; is uncomplicated with phthisis, or any other disease, and where, moreover, the amount of fluid seems directly the cause of the trouble. I also deem it best to operate in *any*, even latent cases, where the pleural cavity gets full of fluid; and if, after a reasonable amount of treatment, the fluid does not diminish.

Where shall we operate?—The point originally chosen by Dr. Wyman and myself, viz.: in a line let fall from the lower angle of the scapula, and between the 9th and 10th ribs, I deem the most appropriate point at which to make a puncture. I have, however, tapped under the axilla, or in the breast, where the case seemed to require it. In selecting the precise intercostal space, on the back, I usually choose one about an inch and a half higher than the line, on a level with the lowest point at which respiratory murmur can be heard in the healthy lung of the other pleural cavity.

I never wait until *pointing* commences; for then I am sure that pus will be found. If *pointing* without opening has commenced, I do not necessarily tap in that place, as recommended by the older surgeons, but seek the most depending point in the chest. While thus desiring to operate before a *local* distension shows itself, I dislike or refuse to tap where there is contraction of the intercostal muscles; and I am certain of getting fluid only where there is distension or flattening of the same.

Objections to the operation.—One word on the objections to the operation: "We may puncture the lung." "We may let air into the pleura." "We may by our strong suction injure the lung." "The instrument often fails to operate." "The connecting tube between the pump and the trocar collapses, and thus checks the flow of liquid." "The liquid may be too thick, and cannot be drawn through the small canula." "We may excite inflammation of the pleura." "The operation is useless, because non-tubercular cases will get well without; tubercular will die in spite of it," &c. &c.

One and all of these objections are to me, with the experience I have had, simply absurd. Let any man have good instruments and manage

them skilfully on proper cases, and he will agree to the truth of what I state.

The operation, like everything else in all the departments of human life, is imperfect. It cannot cure all. But it has relieved many, and will continue to do so, if surgeons will use it; it has been the prominent cause of relief in many more, and will be so hereafter, if men will theorize less and act more. It has been the sole means of saving life, I am sure, in a few of my cases; and I know some patients have died within the last few years, in New England, as I believe, for want of it, under the care of others.

It is certainly innocuous, and gives so little pain, compared with the relief that it affords, that patients have begged for it to be repeated again and again, as a mere matter of relief. In my opinion it ought never again to be allowed to fall into disuse by the profession. I regard any man who allows a patient to die of dyspnœa from pleuritic effusion, however great may be the complications with other diseases of head, chest, or abdomen, as in the dilemma of him who is either wilfully neglectful of some of the means of relief or cure, now by experience proved to be always at hand, or ignorant of the simple and beautiful operation suggested by Dr. Wyman. To a certain extent I deem my connection with the operation somewhat providential. I had seen, in the earlier years of my practice, men die with sudden dyspnœa, or, after months of obscure disease, die with one pleural cavity filled with serum, and not a particle of other disease; and, finally, I have seen tubercular phthisis follow, after months of debility, from what was simple pleurisy at first.

Having no surgical tastes myself, shrinking from the simplest operations, and doing nothing of the kind save when compelled to do so, I at times urged surgeons to operate. They declined, and men died. Finally, in cases where I had control, I took the responsibility, and asked the surgeons to do the manual they were more accustomed to than I was. Their plan was incision and dissection down to the pleura, and a suppurating wound as a consequence, a long, painful operation. At last Dr. Wyman's instrument and method came to my notice. I seized upon them as those I had long sought for. As Dr. Wyman and I were the only believers in the operation, it devolved often upon me. The result is the experience which I have given above. And now, as I have often said, I would as readily puncture the chest as I would draw a tooth, or vaccinate a child.

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