Case of acute foetid empyema, treated by incision into pleural cavity, with copious ablution : rapid recovery / by George Buchanan.

Reprinted from the "Glasgow Medical Journal" for February, 1883.]

CASE OF ACUTE FŒTID EMPYEMA, TREATED BY INCISION INTO PLEURAL CAVITY, WITH COPIOUS ABLUTION; RAPID RECOVERY.

By GEORGE BUCHANAN,
Professor of Clinical Surgery in the University of Glasgow.

The following case presents many points of interest—medical, pathological, and surgical—but as the latter aspect seems the most striking, I have been asked to act as reporter. The patient was under the care of Dr. Whitson, but as she was a family connection of his, he from the outset asked Dr. Maclaren to direct the medical treatment. The case proving very serious, Professor Gairdner was asked to co-operate as consultant, so that all the features, some of which are very unusual, if not unique, can be vouched for by competent observers.

Miss D., aged 19, enjoyed good health till the 24th September last, when she began to suffer from pains in the left side of the chest. On the 28th the symptoms became more severe. She had pains over the left mammary region, increased on taking a deep respiration, and on applying the stethoscope over the painful part a friction sound could be heard. There was dulness over the left lung behind, and diminished respiratory murmur. She had a short cough, but no expectoration, and she lay on her back well supported with pillows, as the pain was worse when she attempted to lie on her left side. Her temperature rose to about 101° and her pulse to 130. The treatment at this stage consisted in moving her bowels well, keeping poultices constantly applied to the painful part, and giving her a diuretic mixture containing iodide of potassium. The symptoms became gradually more severe. Effusion into the left pleura was evidenced by dulness on percussion over the whole posterior region, and anteriorly as high as the third rib, and by displacement of the heart to the right of its normal situation. Her respiration rose to 36 per min. and her pulse to about 140. On 3rd October Dr. Gairdner saw her for the first time in consultation. He thought her illness a serious one, but had hopes that in a short time the acute symptoms

would abate under the treatment pursued. He saw her again on the 7th and 12th October, and on the 14th all hopes of being able to cope with the disease without recourse to thoracentesis were given up, as she was then in a dangerous state owing to the prolonged high fever, the greatly enfeebled and very rapid heart's action, and the great and apparently increasing dyspnœa.

On the 14th October I was called on to perform paracentesis thoracis with the aspirator in the following circumstances. Miss D.'s pulse was 140; respirations, 50; countenance anxious; breathing oppressed; could not lie down owing to the sense of suffocation; left side of chest bulged, but not decidedly at the intercostal spaces; respiratory movement of left side impeded; percussion dull all over left side; heart displaced toward middle line; no pneumothorax or any evidence of connection between the pleural cavity and bronchial tubes.

I made the puncture two inches below the point of the scapula between the seventh and eighth ribs, and drew off about 70 ounces of dark brown putrid pus of most offensive odour.

The operation was attended with most gratifying results, the patient having slept during the following night several hours at a time, which she had not done since the onset of the disease.

The fluid rapidly re-accumulated, so that on the 19th matters were much as described on the 14th. The operation was therefore repeated, and 20 ounces of pus removed. In this case the pus, though still putrid, was not so dark in colour and more watery.

In both instances the pus was submitted to microscopic examination and the presence of bacteria established, but this was forty-eight hours after evacuation, so that there is no proof of their existence in the pus while it was in the pleural cavity.

The relief after the second tapping was as apparent as before; but again, in twenty-four hours, the fluid was evidently accumulating. Accordingly, with the concurrence of the other medical attendants, I gave the patient chloroform, and made a free incision into the pleural cavity, near the site of the puncture. I introduced my forefinger into the chest to explore the cavity, and found the pleura costalis covered with a soft pulpy membrane, the upper surface of the diaphragm was smooth, but I could not reach the pericardium with my finger. The lower edge of the lung felt soft, but was so far off that I

could only touch it. I now introduced the two tubes of a Gooche's double canula, crossing them like the letter X, and washed out the pleural cavity with tepid water containing Condy's fluid, using an india rubber tube as a syphon. About eight gallons of fluid were made to flow through the chest till it ran out perfectly pure and odourless, and of the original colour of the Condy's fluid as diluted. A large vulcanite tracheotomy tube was passed into the chest through the opening and secured there to ensure drainage.

The effect of this apparently rude proceeding was marvellous; most marked improvement in breathing, pulse, and temperature, and general comfort. Patient slept some in the afternoon and several hours during night. Occasionally she was troubled with a tickling cough, for which camphor dissolved in chloroform was tried. There never was much expectoration; and that of clear mucus.

From this time onward the progress to recovery was uninterrupted and rapid. Pus in very small quantity and of no offensive odour continued to be discharged for some days by the tube; but by the 11th November it had become blocked up, so I took it out, giving exit to a little healthy yellow pus. I again washed out the chest with water and Condy's fluid; but it ran clear at the very first. Instead of the hard vulcanite tube I put in a soft ordinary drainage tube, about 6 inches long, and secured it in its place.

Through this a few drops of pus were discharged daily, but this completely dried up before the tube was finally removed on the 22nd November. In a few days the opening into the thoracic wall was completely closed—that is, in about five weeks after the incision—after this the patient rapidly regained health and strength.

Remarks by Professor Gairdner.—This case is unique within my experience, in respect of the rapid formation of an acute empyema, not only dangerous and extreme in its symptoms from the first, but in all probability septic and even gangrenous, apart from any primary lesion of the lung or other organ or part, such as in the great majority of cases determines a really fœtid empyema. Even in a somewhat extended pathological experience, and among many hundreds of observations in my own cases and those of others, I cannot remember to have ever witnessed a positively putrid collection of this kind, in which there was not at the same time either fœtid abscess or gangrene of the lung, or, on the other hand, a perforation leading to pyo-pneumothorax, with septic contamination of the effusion; and even in cases in which leakage had taken place from the

pleura into the lung through a superficial slough of the former, the absence of distinct septic contamination has usually been rather remarkable. Moreover, the symptoms in this case approximated closely to those of the rare and dangerous form designated by Fræntzel as "pleuritis acutissima," in which a fatal result is almost unavoidable, whether or not evacuation of the contents of the pleura is practised.* Such cases, apart from complications, are undoubtedly exceptional. In the first twenty years of my experience I can recall only one, and perhaps one or two at a later date. "Such cases are rare," writes Dr. Clifford Allbutt in probably the latest English résumé of the subject, "except as complications of septic and other diseases, and they are almost surely fatal, even after free evacuation of pus by incision."† When, therefore, in the present case, after twenty days of accumulation, the aspirator gave vent to a pus so horribly fœtid that the first gush of it was almost intolerable, even in a large airy apartment, the mind was led irresistibly to the idea of some latent primary gangrene, either in the lung itself, or in some other viscus with secondary gangrenous abscesses forming in the lung. A certain amount of equivocal odour, suggestive of possible septicæmia, had indeed been detected in the breath and transpiration of the skin, and had formed one of the elements of a grave prognosis; but, on the other hand, there had never been any but the most insignificant expectoration; and even after the first aspiration of the chest, most careful observation failed to detect any evidence of pulmonary lesion on the one hand, or of pneumothorax on the other. After the second aspiration it became only too clear that nothing could possibly save the patient except free incision, and washing out the cavity; but we hardly ventured to hope that these measures would be so rapidly successful, and that the source, whatever it was, of septic decomposition would be not only reached but apparently removed by one, or at most two, ablutions of the cavity with diluted Condy's liquor. The result, unexpected and gratifying as it was, deserves to be recorded, even although it leaves the question of the source of septic infection as obscure as ever.

* Ziemssen's *Cyclop. of the Practice of Medicine.* Vol. iv, p. 602.
† Quain's *Dictionary of Medicine*, p. 1213. *Note.*

GLASGOW: PRINTED BY ALEX. MACDOUGALL.