GANGRENOUS ABSCESS OF THE LUNG; OPERATION; RECOVERY.¹

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ON Sept. 3rd, 1892, a man aged twenty-two consulted me about an abscess he said he had in his throat. He stated that he expectorated a good deal, and sometimes the expectoration smelt very badly. He was of medium height, rather thin, of a sallow complexion, and somewhat anæmic. The pharynx and oval cavity were normal, and nothing was discovered in the larynx on laryngoscopic examination. A cursory examination of the apices of both lungs revealed nothing abnormal. He was given a mixture containing iron and quinine and told to bring some of the expectoration with him. I saw him again on the 7th, when he brought a gill-pot more than half full of muco-purulent expectoration. This quantity he had brought up in twenty-four hours. The sputum was very viscid and flowed out of the pot in one mass, like the urine in advanced cases of cystitis. After a great deal of trouble and many inquiries I at last obtained the following previous history: On April 12th, 1892, he had a pain in his left side with quick and painful breathing. A medical man was fetched, who told him he had pleurisy. He was in bed for a week and at the end of three weeks went back to work. While ill he sometimes coughed up phlegm streaked with blood. After his recovery he still coughed and spat up phlegm, sometimes more, sometimes less. On June 15th he went home complaining of pain in his left breast and inability to do his work; the cough was worse, and the expectoration was greater in amount. Two days later (on the 17th) he coughed up with one effort nearly a gill-pot full of offensive phlegm of a very dark colour. The stench was so great that it was thought he had had a motion in bed. During the two following days he also coughed up offensive phlegm, but not to such an extent as on the 17th. He stayed at home for a month and then returned to his occupation. Since then he has coughed and expectorated more or less and never felt well. On Sept. 8th I made a thorough examination of his chest and found the following conditions. Its right side was normal, both anteriorly and posteriorly. On the left side, in front, the percussion note was normal as far down as the second rib, but here it became abruptly dull; the dulness in the parasternal line extended downwards until it merged in the cardiac dulness; in the mammary line it extended to the lower border of the fourth rib. Transversely, the dulness reached from the left edge of the sternum to the anterior fold of the axilla. Over this area of dulness vocal fremitus and resonance were abolished, and on auscultation the breath sounds were found to be very much diminished; no adventitious sounds could be heard. Posteriorly, on the left side, corresponding to the area of dulness in front, there was a portion of the lung over which there was impaired resonance on percussion, with diminution both of vocal fremitus and of breath sounds. At the extreme base of the left lung there was a similar condition. The rest of the lung was normal. The apex beat was in the usual position, and the cardiac sounds were normal. The rest of the organs were healthy, and he had not lost much flesh. A microscopical examination of the sputum was made, but no tubercle bacilli and no elastic fibres were found, but numerous pus corpuscles were present, and on one or two occasions crystals of hæmatoidin were discovered. The diagnosis rested between a gangrenous pulmonary abscess and a localised empyema, containing fetid pus, which had burst into the lung. The temperature was sometimes normal both morning and evening, but as a rule it reached 101° F. in the evening, being normal in the morning. On Sept. 10th he coughed up half a gill of blood-stained muco-pus having a very fetid smell. After this he improved somewhat, and the expectoration became less, until Oct. 14th, when he began to become worse. The expectoration became greater in amount, and the fetid smell again became very pronounced. Being

convinced that I had to do with an abscess in the lung, I came to the conclusion that an operation was indicated, and so long as the abscess was discharging through the bronchus the patient was exposed to the risk of secondary abscesses in the lungs. Dr. Solomon C. Smith saw the patient with me on Oct. 7th and agreed with me that an operation was advisable. On the 8th, the patient being under chloroform, I made an incision two inches and a half in length over the third intercostal space on the left side. The centre of the incision was half an inch outside the mammary line and in the middle of the area of dulness. The incision was carried through the skin and the pectoral muscles down through the intercostal muscle, and then the needle of a small Dieulafoy's aspirating syringe was introduced to the depth of two inches and a half. The piston of the syringe was withdrawn as soon as the point of the needle was buried in the tissues. Nothing but a little frothy blood escaped into the syringe. The needle was again introduced some five or six times in various places, with the same result. The failure to find pus was very disappointing; but, feeling convinced that it was present if I could only find it, I sewed up the incision and then made another of the length of an inch and a half in the second interspace, with its centre half an inch outside the left mammary line. The needle was again introduced in the centre of the incision, but no pus was found. However, on introducing it a quarter of an inch externally to the first puncture, a drachm and a half of horribly offensive pus was obtained. The stench was so great that my fingers smelt during the whole day, in spite of frequent washings with carbolic lotion. The syringe was detached, leaving the needle *in situ*, and the incision was deepened so as to cut through the pleura, which was adherent. Lister's sinus forceps were introduced, closed along the needle, and then opened, and a portion of a female celluloid catheter three inches and a half long was introduced, and the forceps were withdrawn. The wound was dressed with iodoform and wood-wool pads. During the administration of chloroform the patient coughed up some fetid pus and also some blood. He was at first weak through loss of blood and sickness following the anæsthetic. The catheter was replaced on the second day by an india rubber drainage tube a quarter of an inch in diameter. The expectoration decreased until Oct. 18th, when it began to increase in amount and also became fetid. The patient was directed to lie in the prone position for a portion of the day in order to encourage drainage, and every time the wound was dressed he, while the tube was out, turned on his hands and knees and cleared the sinus and cavity as much as possible by coughing and blowing with the mouth closed. On Oct. 26th iodoform was introduced along the drainage-tube into the cavity by filling the end of the drainage-tube with iodoform and then clearing it by pushing it out with a probe. The next morning the temperature was 102°, and he suffered from troublesome cough and expectoration of frothy mucus. The lung was dull quite to the tip of the left apex from pneumonia. After this the patient gradually improved; the expectoration became less, did not smell, and was more mucoid in character until the beginning of January, when on several days pieces of sloughing tissue were coughed out of the sinus. On Jan. 25th, 1893, I was called out at 4 A.M. and found that the patient had coughed up from eight to ten ounces of bright-red blood. There were intense dyspnoea and some cyanosis; rhonchi were heard on both sides of the chest; some of the blood he coughed up afterwards smelt badly. At 12 noon he was much better, and on the next day he was out. On Feb. 1st there was no more hæmorrhage. The expectoration was less. There was some difficulty in introducing the tube owing to contraction of the sinus; the patient was gaining in weight. On March 3rd he went to Blackpool, the tube still being in. The next day he coughed up some more blood, which smelt badly. During the following week the expectoration lessened a great deal, and a smaller tube was introduced as the sinus had contracted. On April 14th the tube could not be introduced, and as the expectoration and discharge had ceased for ten days I did not attempt to use it. Since this time he has remained in good health and has gone back to his duties.

Remarks.—There can be no doubt, I think, that the abscess was the consequence of localised gangrene of a portion of the left upper lobe. The illness which he had in April, 1892, was no doubt pneumonia associated, possibly, with some pleurisy. Whether gangrene occurred then is very doubtful, and I think it is much more likely that some chronic pneumonia persisted in the left upper lobe, and that some time

¹ A paper read before the Leeds and West Riding Medico-Chirurgical Society, where the patient was shown on Dec. 1st, 1893.

later the vitality of this portion of the lung became so much lowered that gangrene ensued, caused possibly by some thrombosis of the vessels supplying the affected portion of the lung. There is no history of any foreign body having gained entrance into the lung, and none was found to have escaped subsequently by the wound on the external surface. The diagnosis rested at first between a gangrenous abscess and a localised empyema which had burst into a bronchus. Phthisis was excluded by the seat of the lesion, as the apex itself was free and the posterior apex was not affected; and Drs. Ewart and Kingston Fowler have shown that tubercle in the great majority of cases begins in the apex and follows a well-defined route, nor were tubercle bacilli at any time found in the sputum. The impaired resonance and diminished breath-sounds at the extreme base of the lung on the same side were due, no doubt, to some thickening of the pleura. There were none of the so-called classical signs of a cavity in this case; the signs were simply those of consolidation. At no time could crepitations or other moist sounds be obtained, even after coughing; the breath-sounds were simply diminished. Another interesting point about this case is the situation of the abscess in the upper lobe of the left lung. Dr. Coupland² has described a considerable number of cases of abscess of the lung, and of thirty-eight cases there was not a single one of abscess in the left upper lobe. In the same paper he says that the majority of abscesses follow acute croupous pneumonia. Some three or four years ago I saw a very similar case to the one I have just described. The patient was a young woman twenty-two or twenty-three years of age and complained of vomiting matter and blood, which smelt abominably. On my inquiring into her history she told me that some four years before I saw her she had had an illness with acute pain in the left side, for which she was poulticed. She recovered somewhat slowly, and some time afterwards she coughed up some yellow matter and blood, which nearly choked her. This attack was preceded for a day or two by a feeling of illness, and for a few hours before the attack she had a feeling of suffocation. On examination the right lung was found to be normal, but in the upper lobe of the left lung, at the front, there was a patch of dullness extending downwards from the first rib to the lower border of the third rib, and over the same area there were diminution of the breath sounds and almost total absence of vocal fremitus; no crepitations or other adventitious sounds could be heard. Posteriorly over the left scapula there was impairment of resonance over an area corresponding to the dull area in front. The clavicular and supra-clavicular regions in front were normal both on percussion and auscultation. She had four similar attacks at intervals of some months, and on every occasion the matter and blood which were coughed up smelt very badly. Between the attacks there was no cough or expectoration, but for a day or two previous to each attack she had a dry, ineffectual, teasing cough, and when this occurred she said she knew she should cough up some more matter. It is now more than eighteen months ago since she coughed up any blood or pus, and when I saw her recently I was agreeably surprised to find that the dullness had disappeared and that the respiratory sounds were almost normal. There can be little doubt that this was an abscess of the lung which only opened into a bronchus when a sufficient amount of pus had collected. The patient's health between the attacks was good, so that I did not advise any operation.

The surgical points on which I would lay stress are: 1. In a chronic case the pleura, as it was in the case related at the commencement, is probably adherent; in an acute case an incision ought first to be made so as to see whether there is adhesion between the parietal and visceral layers of the pleura, because if any fetid pus should escape into the pleural cavity it could not fail to set up most intense septic pleuritis.³ 2. One should not be satisfied with one puncture of the needle, but try in another spot if the first attempt to find pus fails. Mr. Godlee⁴ mentions several cases where the site of the abscess was missed at the first attempt. 3. Operation is not justifiable unless the patient is losing ground. Abscess of the lung may recover spontaneously, as in my second case. 4. After the drainage tube has been introduced, the patient should lie in a position favourable for drainage and should be persuaded to clear away any secretion that may collect by blowing at intervals with his mouth and nostrils closed. This relieves

the cough. In the case above described the expectoration did not suddenly lessen in amount after the opening of the abscess, as has been the case in several reported instances, and this was probably due to a locus of the abscess cavity being situated at a lower level than the opening of the drainage tube. This also accounts for the great length of time the patient took to recover. 5. Another point on which I would lay emphasis is this: the patient should go to the seaside as soon as possible. In our manufacturing towns with their dust- and smoke-laden atmosphere any lung lesion is constantly subject to irritation from the more or less impure air which the patient breathes. Even a stay of two or three weeks makes a wonderful difference in his condition, and this was well marked in my first case.

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Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF INTERSTITIAL TUBAL PREGNANCY SUCCESSFULLY TREATED BY ABDOMINAL SECTION.

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IN connexion with this case one of those coincidences occurred which are so startling as to be almost incredible. On the morning of Oct. 22nd last I was engaged in examining a preparation sent to me for opinion by Mr. Harry Lupton of Stratford-on-Avon which proved to be an interstitial tubal pregnancy removed from the body of a patient who had died from intra-peritoneal hæmorrhage, when there was carried into my consulting-room on a stretcher a patient from Wellingborough sent to me by Mr. Saunders. She was thirty-eight years of age, had been married fifteen years, and had had four children—the last one three years ago. She had menstruated regularly and without trouble from the cessation of her last lactation up till July last, when her period went on for three weeks. Again in August and September it went on for five weeks, and after that she saw nothing. She was attacked with severe pain in the left side at the end of August and noticed a lump in the left groin early in September, since which time the lump had grown and the pain had steadily increased. She had been confined to bed since the beginning of September. When I saw her on Oct. 22nd she looked extremely ill, and a large mass occupied the pelvis and bulged up towards the left side. It fluctuated and gave the impression of being embedded in the broad ligaments and as if the uterus was spread over the right side of it. The mass did not extend quite up to the umbilical level. The patient's skin was dry and rough, her tongue was foul, and her temperature was high, so that I diagnosed the case as one of suppurating cyst of the broad ligament and advised immediate operation. I opened the abdomen next day and as soon as I had entered the peritoneal cavity recognised the fact that the conditions were new to me. The tumour was certainly covered by uterine tissue, and, while the uterus could not be discovered independently, it became evident, from the normal relation of the uterine appendages on the right side and the abnormal position of those of the left, that the tumour consisted of an enlargement of the posterior and upper wall, for the left ovary and tube were raised up and brought quite forwards. I punctured the mass just behind the advanced left cornu, but nothing came through the trocar save a little putrid serum, very highly coloured. I therefore enlarged the opening with my fingers and turned out a large quantity of offensive blood-clots with placental and foetal débris. I cleared a quantity of adherent placenta from the wall of the cavity, this proceeding being accompanied by severe hæmorrhage, which was controlled by sponge pressure. Passing my finger up the vagina to the cervix, I found that it could easily enter an enlarged but perfectly empty uterine cavity, and then I easily confirmed my suspicion that the case was really one of interstitial tubal pregnancy in which the foetus had died, and therefore the cyst had not ruptured. I washed out this

² Brit. Med. Jour., vol. ii. 1885.

³ See Dr. Coupland's paper mentioned above and R. J. Godlee, THE LANCET, March 5th and 12th, and April 2nd and 9th, 1887.

⁴ Loc. cit.