ORIGINAL COMMUNICATIONS.

CASES OF PARACENTESIS THORACIS,
WITH OBSERVATIONS.

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[Read before the Hunterian Society, Nov. 30th, 1854.]

Most persons connected with public practice have, I think, observed that cases out of the ordinary course generally occur in sets, or in quick succession to each other; that, after some weeks, or even months have elapsed, without any case of poisoning, for example, having occurred in the wards, two, three, or more cases, may be admitted in a single week, etc. Thus, it has lately happened at Guy's, that, though "cheloid" disease was little known or not recognised little more than a year and a half ago, we have since that time had admitted five or six instances of the complaint. Thus, as another example, though no case of cut throat had previously been admitted for six months into Guy's, we lately had three cases in about four days admitted into one ward, and another, two or three weeks afterwards, into another ward. I think it desirable to mention this coincidence, lest, because I have not lately adverted to it, the profession should assume that I have given up my advocacy of, or have resigned my confidence in, the operation of *paracentesis thoracis*; whereas the fact is, that the following cases only have occurred under my observation, so far as I am able to recollect, within the time comprised in their history.

It is not my intention here to enter into any discussion as to the general propriety or the safety, *under proper precautions*, of the operation; of the mode in which Mr. Cock and I recommend it to be performed; or of the plan of procedure to be adopted after its performance; as I conceive these questions have been fairly laid before the profession in various papers published in the *Guy's Hospital Reports* and the *Medical Gazette*.*

My simple object in the present communication is to lay before the profession a few cases in which the operation was performed, and to indicate thereby the simplicity, and, *under proper precautions*, the harmlessness—*quoad* its immediate effects—of the operation, and the temporary relief obtained thereby in cases wherein no permanent benefit could be reasonably expected by any mode of treatment, and in which even temporary relief from excessive distress could be obtained by no other means with which I am acquainted, without an infinitely greater expenditure of power, anxiety, and pain, and also with, after all, very problematical results indeed. The cases are as follow:—

CASE I. PLEURITIC EFFUSION; PARACENTESIS THORACIS; RELIEF; RAPID CURE. (From Notes by Mr. G. N. CHEEK.) J. P., aged 26, by trade a gunmaker, and residing in Whitechapel, was admitted into Stephen ward (No. 19) on March 1st, 1854, under the care of Dr. Babington. He was unmarried; his parents were yet alive; and he had eight brothers and sisters, all of whom were healthy. He stated that he was never very strong, or in robust health; but that, for the last four years, he had been occasionally liable to shortness of breath, but not to such a degree as to compel him to desist from his occupation. His present disease commenced about a fortnight before admission, when he was attacked with a very severe, sharp, and stabbing pain in the right side, accompanied with rigors and general febrile symptoms. He kept his bed for four days, and then went to consult Dr. Habershon, by whose advice he was much relieved; but he was subsequently induced to apply for admission into the hospital. He then complained of pain in the chest, especially between the shoulders, and beneath the sternum. He had very slight dyspnoea, but a frequent and painful cough; the pulse was small, compressible, and 100 in number; the skin

was hot; the tongue furred, and rather dry; the bowels were confined; micturition was natural. General dullness upon percussion existed, both before and behind, over the right side of the chest; together with very marked *agophony*; and, upon the left side, the respiration was puerile. He was ordered, upon his first admission, a saline mixture, with fifteen minims of antimonial wine and twenty minims of tincture of hyoscyamus, to be taken three times a day; and to have low diet.

March 3rd. There being no improvement in any of his symptoms, and his distress of breathing being now urgent, a trocar was introduced by Mr. Hilton at the upper edge of the ninth rib, and about twelve ounces of clear serum were withdrawn. He was ordered to take the following pill three times a day:—

R. Pilule hydrargyri gr. iij.
Opil gr. 4. M.

As his bowels were confined, he was ordered also to take immediately a scruple of the *pulveris rhei salinus* (*Guy's Hospital Pharmacopœia*.)

March 4th. He felt very comfortable this morning. The pulse numbered 96, and was small and feeble; the tongue was coated; the bowels confined. He was ordered to take immediately a scruple of *pulvis rhei cum calomelane*; and to continue the medicine.

March 10th. He was going on quite well; but he still complained of pain between the shoulders, of cough, and of incapability of taking a deep inspiration. The bowels were open; and the mouth was affected by the mercurial. His appearance had much improved.

March 16th. He was much better; the pills had been omitted; and he was ordered to have a blister applied.

March 22nd. He was much better; slept and ate well. He had but very little pain indeed, and got up daily. An aperient was ordered.

April 3rd. He complained of pain in the right side, at the seat of the puncture; and felt weak. The chest was quite free from fluid. The bowels were open, and the appetite good. He was ordered ten minims of tincture of digitalis in saline mixture, three times a day; and was put upon a low diet; and, a few days subsequently, had a belladonna plaster applied.

April 17th. He was relieved by the plaster, and was quite free from pain when quiet; but, upon exertion, had some pain in the right side. No dullness existed in the side, nor could any friction sound be heard upon deep inspiration. He felt quite well, and upon this day was presented.

REMARKS. This was a case of acute pleuritic effusion, in which, as I believe, paracentesis was performed not so much with the view of simply curing the complaint, as for the purpose of curing it quickly, and especially of relieving urgent symptoms. To this end the operation was intended to be subservient; and this object it happily effected. The record is a good illustration of the utility of the operation in such cases, as well as of the trifling inconvenience which, when it is executed with care and after due examination, results from its performance. The operation, however, it must be acknowledged, is but rarely necessary for these especial purposes; and, among the many cases of paracentesis thoracis which I have recommended, witnessed, or performed, I recollect very few indeed in which, under similar circumstances, it appeared to be demanded. One, however, published in a former paper, is forcibly impressed upon my memory. It was a venereal case of my colleague Mr. Cock's. Without obvious cause, the patient was suddenly attacked with large pleuritic effusion—a perfect *water-stroke* of the pleura. He was incapable of lying down, and breathed with the greatest anxiety while sitting up in bed. The left side of the chest was found, from the physical evidences afforded, to be full of fluid. A trocar was introduced, and some pints of fluid were evacuated, to his immense relief. In about three days, the operation was repeated, with similarly beneficial results; after which he got quite well, under the ordinary treatment for such affections, and lived for several years, and, to the best of

* See *Guy's Hospital Reports*, vol. 2, second series, 1844, pages 48 and 355; and also vol. 8, second series, page 1; and *Medical Gazette*, vol. 2, new series, 846, page 281, etc.; and vol. 4, new series, 1847, page 226.

my belief, now lives, in good health, to record his gratitude for, and to exult in the beneficial effects of the operation.

CASE II. PLEURAL EFFUSION? MALIGNANT DISEASE?* (Reported by Mr. FALCONER ATWELL.) M. L., aged 46, residing, as a laundress, in Barnet Grove, Bethnal Green, was admitted, under the care of Dr. Hughes, July 6th, 1853.

General Aspect. She had an anxious appearance; her face was mottled with red patches; and her manner was indicative of great nervous excitability.

History. She was a married woman, with eight children, the youngest of whom was sixteen months old, and but lately weaned. There were some suspicious-looking spots upon her breast, attributed to her infant having, as she said, "picked at it", in its anxiety to obtain its accustomed nourishment. She stated that, in her occupation, she was necessarily exposed to wet and to alternations of temperatures; and that, for the last three months, she had experienced what she called a "sinking" weakness and oppression of the chest. Two months before admission, she was first affected with cough, accompanied with thick yellow expectoration; but, for the last fortnight, all expectoration had ceased. For the last month, her breathing had been rapid and oppressed, and she had felt pain in the left side and across the loins, occasionally of such severity as to "bend her double"; and, during nearly the whole of this time, she had been unable to lie upon her right side. The pulse, upon admission, was 112 in number, feeble, and compressible; the tongue was rather furred; but the skin was neither hot nor dry; the respiration was short and quick, numbering from 35 to 40 in the minute; and, as before stated, her expression of countenance and her manner were indicative of anxiety.

Physical Signs. The left side of the chest was nearly motionless upon even forced inspiration, and was unusually dull upon percussion, both before and behind. Over the scapula, tubular breathing was audible; but inferiorly, both before and behind, all sound of the respiration was absent. No ægophony was perceptible; and tactile vibration was altogether wanting. The heart was greatly dislocated; its impulse being felt, and its sounds being most distinctly heard, of nearly a normal character, below the right mamma. The following treatment was ordered:—

Applicetur emplastrum lyttæ magnum lateri sinistro.

Rx Unguenti hydrargyri fort. 3ij.
Ter die femoribus illinend.

Rx Potassii iodidi gr. iij.
Liquoris potassu. ℥xv.
Inf. gentian. comp. ʒiiss. M.

Fiat haustus ter die sumendus.

Nutritious diet was also ordered.

As, however, upon the next day (July 7th), the breathing was exceedingly rapid, and the appearance was indicative of great distress, and she was urgent and almost clamorous in her demand for relief, it was decided to attempt to afford it by the introduction of the trocar. After repeated examination, and the resulting conviction of the comparatively perfect efficiency of the opposite side to carry on the function of respiration, and after an exploratory puncture by the *needle trocar* of Dr. Babington, the operation of paracentesis thoracis was performed by Mr. Poland, with a small trocar, in the spot pointed out by her physician, between the eighth and ninth ribs, rather anterior to their angles. Sixty-four ounces of fluid were slowly withdrawn, to the immediate relief of the patient. The fluid withdrawn was of the colour of sherry wine; it formed a firm clot upon boiling; and, upon standing, it separated into a clear serum and an orange-coloured coagulum. At the evening visit, in consequence of the bowels being confined, two scruples of compound jalap powder were prescribed; and she was directed to continue the remedies formerly ordered.

July 8th. She slept well last night, for the first time

for some weeks. She coughed, however, a good deal; and expectorated a considerable quantity of thin colourless mucus. The chest, from prudential motives, was not minutely examined; but the heart was observed to have regained in a slight degree, but to a slight degree only, its normal position. The bowels had been freely relieved; and she was very comfortable, and in a condition altogether most satisfactory when compared with that of the preceding day. She was ordered to continue the mercurial inunction and the medicine.

July 9th. The breathing was more embarrassed, and the expression more anxious. The heart was observed, by both impulse and sound, to be more inclined to the right side than yesterday. Some increased respiration sounds were audible; but dullness upon percussion existed throughout the entire side. She said she thought that the fluid was collecting again. She was ordered to take a linctus for her cough; and to continue the medicine as before.

July 12th. The linctus relieved the cough; and five grains of Dover's powder, given at bed-time, had secured good nights. The inunction had been vigorously persisted in, without any perceptible effect; and she was therefore ordered to take a pill with extract of conium and pilula hydrargyri, three times a day; to have a fresh blister applied; and to continue the inunction. The entire left side was still intensely dull upon percussion, both behind and before, above and below; and it was remarked that, though the relief had been great, the alteration of the physical signs had not commensurately changed; that the upper portion of the side of the chest had not regained its resonance; and that the heart, although improved in its position, had not changed its site so much as, from the amount of fluid withdrawn, might have been reasonably expected. It was therefore predicted that, in addition to the fluid effusion, some solid tumour existed in the apex of the lung, which mechanically prevented the expansion of that organ, and the return of the heart to its accustomed situation; and that, in all probability, this tumour was of a malignant character, if, indeed, it were not malignant disease of the lung itself.

July 15th. The dyspnoea having considerably increased, the effusion having materially augmented, the general distress having gradually but very slowly returned, and not the slightest evidence existing of the action of mercury upon the system, it was determined again to withdraw the fluid by operation. Paracentesis, therefore, was this day performed, in the same manner, and with the same precaution, as formerly; the point of puncture being about two lines below the cicatrix of the former operation. Seventy-five ounces of fluid were withdrawn, without the slightest accident, to the immense and immediate relief of the patient. The fluid coagulated as before, but was of a lighter straw colour than formerly.

July 17th. She continued to breathe more easily since the operation. The heart remained displaced below the sternum; and the upper part of the left chest continued perfectly dull upon percussion, and void of any respiratory sound, except some not very distinct tubular breathing posteriorly.

July 19th. Only four days after the operation, the fluid appeared to be rapidly reaccumulating. This fact was evidenced as well by the more extensive dullness upon percussion as by the increasing dyspnoea. She was still unaffected by the mercury. A blister was ordered to be applied below the left scapula; and two grains of compound elaterium powder (containing one-sixteenth of a grain of elaterium) to be taken in mint julep three times a day.

July 22nd. Four ounces of port wine were ordered; and the ointment to be repeated.

July 23rd. The dyspnoea having again become very urgent, it was determined, at her own most anxious solicitation, to tap the chest again. The operation was performed nearly in the same spot as formerly; but the fluid now escaped only *guttatim*, and not more than six ounces were withdrawn, of the same clear amber appearance as before; and but little relief was obtained. She was ordered to

* The notes of interrogation appended to the heading of this case refer to the doubt existing as to the exact nature of the malady, when it came first under observation. Both headings proved to be correct.

take three grains of pilula hydrargyri, with one grain of disulphate of quinine; and to continue the inunction. In the evening, she was much distressed by dyspnoea and oppression; and the following draught was prescribed, with the effect of affording relief, and of procuring sleep.

R. Spiritus ætheris sulphurici compos. ℥xxx.

Liquoris morphine ℥xx.

Misturæ camphoræ ʒj. M.

Fiat haustus statim sumendus, et quartâ quâque horâ repetendus si opus fuerit.

July 25th. By the aid of the draught, she passed a more tranquil night; but she was in a very exhausted condition, and appeared to be rapidly sinking. As she expressed a determination to go home, which no reasoning of Mr. Atwell could overcome, she was supplied with a draught, containing æther, opium, and ammonia, to take with her; but as she was not visited, as she had anticipated she would have been, by her friends, she did not leave the hospital as she proposed; and died at half-past six the next morning, July 26th.

EXAMINATION OF THE BODY, eighteen hours after death. The left lung was extensively infiltrated with malignant disease in almost every part, so as to leave very little if any part of that organ capable of carrying on the function of respiration. So far as could be ascertained, the malignant mass appeared to have originated in the glands of the anterior mediastinum, in which existed a large firm mass, of the size of a doubled fist. Malignant tubercles were also freely deposited upon the left pleura, costal as well as pulmonary. In the pleural cavity was effused a considerable quantity of clear serum, though the sac did not appear to be greatly distended. The heart, though displaced, and effectually prevented from gaining its normal situation by the malignant growth, was not diseased; nor was any evidence of malignant disease discovered in the right lung or pleura. In each kidney was found a single large malignant tubercle; but the uterus, ovaries, and other organs of the abdomen, displayed no signs of malignant or other disease.

REMARKS. This case will be admitted to be one of great interest. It is not intended to be professed that, had it been known beforehand that extensive malignant disease had existed in the chest, the operation of paracentesis would necessarily have been recommended; or that it was anything more than a fortunate accident that the trocar was introduced into the fluid accumulation rather than into the malignant mass. But it is submitted as an instance in which the operation afforded immense temporary ease in a case which was perfectly irremediable from the commencement. It may of course become a question whether any circumstances in the case, either in the history or aspect of the patient, the physical signs, or the general symptoms of the complex disease, did afford, or might have afforded, any presumptive evidence of any carcinomatous affection of the chest, or indeed of any disease other than chronic pleuritic effusion. It may also become a question whether, supposing the complex nature of the affection to have been suspected, or even ascertained, it would have been desirable or even justifiable to have explored the chest with the needle trocar, for the purpose of ascertaining the site of the fluid, so as to afford a chance of the probability of withdrawing some of it, and thereby relieving the patient. For myself, I must acknowledge that so little if any injurious effect has in my experience resulted when a malignant mass, whether external or internal, has been punctured with a fine needle; so slightly important, when undertaken with proper precautions, is the simple operation of paracentesis thoracis; and so great has been the amount of temporary relief derived from its performance in even those cases in which no permanent benefit could be reasonably anticipated, that I have no hesitation in answering this question in the affirmative. I state this from the conviction that, if a malignant mass should be penetrated, little injury will be effected in a complaint necessarily mortal; and that, if a collection of serum should be entered, and evacuated, much present ease may be obtained by a slightly painful and a harmless operation. I have myself been

present at, or advised, the performance of the exploratory puncture (by the canulated needle, not by the lancet) in four or five cases at least in which malignant disease of the lung or pleura was found, either by the exploration itself, or by the future progress of the complaint, to have existed; but I am not aware of a single instance in which any injurious consequences resulted. I am, however, quite prepared to suppose that others, whose experience may have been different, may hold an opposite opinion upon the question proposed. In the case under consideration, I am quite convinced that the poor patient was immensely relieved by the operation; and it would, I think, be difficult to prove that her condition was in any respect otherwise than benefited by its performance. It may be incidentally noticed, that the resistance in this patient to the action of mercury, assiduously applied, from July 6th to July 25th inclusive, by inunction—in my opinion, the most certain mode by far of securing its constitutional effects—the inunction being assisted by the internal administration of blue pill and quinine three times a day,—was, to say the least, very remarkable, as these medicines were entirely inoperative in producing the slightest constitutional effects.

CASE III. MALIGNANT DISEASE OF THE AXILLA AND CHEST; PLEURITIC EFFUSION; PARACENTESIS THORACIS; RELIEF; DEATH; EXAMINATION. (Abstract from Notes by Mr. N. BRIGSTOCKE.) I was requested by Mr. Cock to see a patient of his in the hospital, on March 27th, in consequence of her being suddenly attacked with pain in the side. She had been admitted on March 17th, for an ugly-looking sloughing tumour in the left axilla, which had followed abscess and subsequent necrosis of the first phalanx of the thumb. I found a delicate-looking girl, 19 years of age, evidently worn down by disease, suffering from not very acute inflammation of the left pleura, for which dry cupping and a large poultice, with a pill containing antimony and opium at bed-time, were prescribed with perfect success. She afterwards had diffuse inflammation of the right thigh and loin, in the latter of which a large sloughing abscess was opened, and discharged freely, thereby reducing still farther her already enfeebled power. On June 6th, independently of constant vomiting, she had severe pain in the right side of the chest, increased upon deep inspiration, and accompanied with dyspnoea, dulness upon percussion, increased resonance, and shrillness of the voice, and tubular breathing. On June 8th, her symptoms had not been relieved by the simple remedies that she was in a condition to bear. Considerable doubt existed in the mind of Mr. Cock as to the malignant character of the sloughing tumour in the axilla; but her symptoms were now so urgent that she appeared in hourly danger of suffocation. Of medical means available for relief to a person in her condition, I knew none; so that I had no hesitation in advising the immediate performance of the operation of paracentesis. This, in the absence of Mr. Cock, was performed by Mr. Poland, between the seventh and eighth ribs, a little anterior to their angles, and more than a pint of serum was evacuated, with some relief. It was observed that the egress of the fluid was suddenly stopped, and that, though the probe was passed into the chest for several inches without meeting any obstruction, yet no more fluid could be evacuated. This at the time appeared to be difficult of explanation. She was ordered fifteen minims of solution of acetate of morphia, in julep of nitrate of potash, every six hours. The report the next day was, that she still had great difficulty of breathing, but that she had less pain, and no vomiting; and that she still, as heretofore, suffered from great exhaustion. Upon the day following, she did not suffer much from pain, but was very low, and obliged to be supported by pillows. She died upon the succeeding morning.

EXAMINATION OF THE BODY, June 12th. The body was well nourished, and the extremities were rigid. The face was congested. A trocar, before opening the chest, was introduced into the right pleura, and three pints of clear yellow serum were evacuated. Upon removing the sternum, the right pleura was found to have many pale malignant tuber-

cular masses attached to its costal surface, as well as to the portion adjoining the mediastinum, that covering the diaphragm, and particularly along the course of the ribs. They varied in size from a hazel nut to a hen's egg. The right lung was compressed, but contained a large white mass of medullary cancer. The left pleura was adherent posteriorly, but without malignant deposit. The left lung contained several tubera in the apex, of the size of nuts; and some others existed in the lower lobe. The bronchial glands were infiltrated with medullary matter. The cervical and mammary glands were unaffected. The pericardium contained about half an ounce of serum. The heart, though flabby, was healthy. Some bands of adhesion connected the upper surface of the liver with the diaphragm; but the organ itself, and the other organs of the abdomen, presented no very remarkable traces of disease. The cancer tubercles were for the most part situated immediately beneath the pleura; some were almost pedunculated, and were very vascular. The pleura itself was covered with a delicate layer of false membrane; and a similar membrane could be separated from the surface of some of the malignant tubercles. The growth was composed of variously formed cells, with large nuclei. Some of the cells were caudate: other free nuclei, together with fat, were observed. Some delicate fibres were also discovered in the deposit, resembling the boundary cell-wall of the lung; as if the pulmonary tissue had become infiltrated with the cancerous deposit.

REMARKS. The cause of the cessation of the flow of the fluid during the operation, and its freely flowing after death, was explained clearly enough by the inspection. It appeared that the trocar had penetrated the pleura just below one of the malignant tumours, and that, after some certain quantity of fluid had been evacuated, this tumour dropped over the opening of the canula, and acted as a valve, which valve freely admitted the passage of the probe inwards, but effectually prevented the passage of the fluid outwards.

The observations appended to the former case are, for the most part, applicable to that just related; excepting that, in this case, the operation was performed simply and solely with the view and in the hope of affording some relief to most distressing symptoms, without the slightest prospect of any permanent benefit. This relief, I have the pleasure to hope and believe, it did afford to some considerable extent. The pain was assuaged; and the incessant sickness, when anything was taken into the stomach, was stayed. The relief would probably have been far greater had not the *doubly malignant* valve unfortunately interfered with the free escape of the effused serum.

CASE IV. PLEURITIS; EMPHYSEMA; EXTERNAL ABSCESS; PUNCTURE; CONTINUED DISCHARGE; GRADUAL EXHAUSTION; WITH SYMPTOMS OF PHTHISIS. (From Notes by Mr. J. W. DRYLAND.) E. A., a widow, aged 49, was admitted into Guy's Hospital Feb. 8th, 1854, under the care of Dr. Babington. She was by occupation a weaver, residing in Aldgate. She had never had any serious illness, though she had borne eleven children, till about three months ago, when she was attacked with a very severe pain at the lower part of the left side of the chest anteriorly. This had continued more or less to the time of her admission, when she complained of violent pricking pain between the shoulders, and at the base of the left side of the chest. She had also a severe cough; the pulse was hard, and 84 in the minute; the tongue highly injected; the skin hot and dry; but, though thirsty, she had a good appetite. The catamenia had finally ceased about nine months previously.

Physical Signs. Anteriorly, resonance upon percussion existed upon both sides, excepting below the mamma on the left side. Posteriorly, the right side was resonant, but the left was quite dull below the spine of the scapula; and in this part tactile vibration was entirely absent. Puerile respiration existed upon the right side, both before and behind; but upon the left side posteriorly vesicular breathing was heard only above the spine of the scapula, below which it became more and more indistinct, and towards the base

was entirely absent. She was ordered to have a blister applied to the left side; and to take three grains of iodide of potassium three times a day, in saline mixture.

Feb. 16th. A diffused swelling, containing fluid, having appeared over the eleventh and twelfth ribs, on the exterior of the left side, a trocar was introduced by Mr. Hilton, and about ten ounces of pus were withdrawn, after which she felt much relieved.

Feb. 20th. The opening having healed, and the matter having reaccumulated, the swelling was again opened by Mr. Hilton with a lancet, and fifteen ounces of pus were removed. She was ordered six ounces of wine.

From this date the wound was kept open, and the discharge continued more or less. She afterwards had severe diarrhoea, which contributed materially to exhaust her little remaining power; and when she came under my care, at the end of March, she had all the appearance and most of the symptoms of a person suffering from advanced phthisis. Soon afterwards she left the hospital by her own desire, and was not afterwards heard of.

REMARKS. This case is not introduced as any rarity. It is, I am aware, one of far too common a character. It may indeed be objected, that it was not an instance of paracentesis thoracis at all, but merely one in which a thoracic abscess was opened, which communicated with and formed part of a collection of matter in the pleura. But it is from its common occurrence that I have added it to the three formerly noticed, for the simple purpose of agitating the question as to what plan of procedure is the most desirable to follow in similar instances of disease. The question, then, which I would submit for consideration, is this: Supposing a person to have been attacked with pleurisy, acute or chronic, accompanied with a large amount of fluid effusion, so far as that condition can be ascertained; that all acute symptoms have disappeared; that remedies, internal and external, appear so far to have lost their effect that little more benefit can be fairly and consistently expected from their administration,—what is the most desirable plan to pursue? To leave the case pretty much to itself, or, as it is called, to nature? or to draw off the fluid so far as it will spontaneously flow? or, finally, to draw off so much of the fluid as can be obtained by the admission of air into the pleura in its place? Now, I am well aware that many persons have recovered in whom an empyema has burst spontaneously, or in whom an abscess below the integuments communicating with one has been opened; that others have had abscesses discharging from their sides for weeks and months, and even years together; and that these abscesses have ultimately healed, with a misshapen chest, and a probably distorted spine; and I am aware that some physicians, of high standing and large experience, think it the more desirable proceeding to leave these cases of chronic effusion and of empyema to the course of nature. I am also aware that some believe it to be desirable, in cases of empyema, to draw off as much of the fluid as possible by the admission of air, with the hope and expectation that the air may be absorbed, though pus will not. My own experience and consideration induce me to believe that it is preferable to tap the chest as soon as all hope of the future beneficial operation of remedies has disappeared, and, if possible, before the effusion has been converted from serum to pus; and that it is desirable to prevent, in all cases, the admission of air; and for the following reasons:—

1. The longer the lung is compressed by the fluid, the larger and firmer will become the albuminous layer upon its surface, the greater will be the difficulty of its future expansion, and the less the probability of its future expansibility; and the greater, as a necessary consequence, will be the retraction of the parietes of the chest, and the resulting incurvation of the spine.*

2. Supposing the fluid not evacuated early, it is not impossible that it may make its way through the lung, and subject the patient to a constant cough with copious ex-

* This, though applicable to adults, is especially important in the case of children, in whom the bones are not perfectly solidified, and who are almost certain after empyema, to become lamentably distorted for life.

peccoration, and, it is probable, to a persistent pneumothorax.

3. Cases of pleuritic effusion, uncured and not evacuated, are, from frequent observation, liable to terminate in phthisis. Of this several instances have occurred under my own observation.

4. Supposing no permanent benefit to result from the operation, the patient is certainly in no worse position locally, and, I cannot but presume, in a far better position constitutionally, than if he had laboured on with his lateral load during the supposed intervening period.

5. The operation is extremely simple; causes but little pain; gives rise to little inconvenience; generally affords great, and often very remarkable, relief; and, with proper precautions, is not only free from danger, but, I may say, after having seen, been consulted in, recommended, or performed it, in I believe at least a hundred instances, that it has not in any one case been followed by any mischance, or even by any inconvenience of considerable duration; though I am well aware that, in inexperienced hands, it has, from an error in diagnosis, been more than once followed by almost instant death.

6. I believe that the withdrawal of one fluid and the admission of another, in the case of empyema, is not likely to be attended with any considerable relief, or followed by much benefit; as I suppose that a surface plastered over by a layer of soft albuminous matter, often several lines thick, is quite incapable of absorption; and that, in the expressive words of my surgical colleague at Guy's, and my fellow-scribe upon this question, "the cavity which, when it is first opened, is found to contain a bland, inodorous, sero-purulent, or purulent fluid, becomes speedily converted into a fetid abscess, as a consequence of which irritative or hectic fever, and other distressing constitutional symptoms, frequently result; and the individual sinks at an earlier period than if he had been left in the hands of nature, without the interference of the surgeon."

I cannot, then, but believe that the most desirable plan to pursue in cases of chronic pleuritic effusion in large quantity, when internal and external remedies have ceased to be effective, is to draw off the fluid before it has become purulent, so as to permit the lung to expand before it has become inextensible from its adhesive albuminous covering; and that, in case of empyema, or where the fluid partakes more of a purulent than of a serous character, it is desirable to evacuate so much fluid only as can be obtained without the admission of air, so as to prevent the occurrence as long as possible of irritative or hectic fever, and a continued and exhausting drain upon the system by the discharge of a large pleuritic abscess. It is true that, in many cases, a permanent opening may be established, and air be admitted, whatever may be done to prevent them; but it appears to me that it is desirable to avoid these evils, if it be

possible, and, at any rate, to defer them as long as we are capable of doing so.

14, St. Thomas's Street, Southwark, December 1854.

THE DEGREE OF LIABILITY TO PHTHISIS IN THE POPULATION OF CLOTHING DISTRICTS.*

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THE PROVINCIAL MEDICAL ASSOCIATION is, by its constitution, peculiarly well adapted to afford facilities for the investigation of questions having reference to the influence of local circumstances in the production or prevention of disease. Such investigations are specially important as respects diseases which, when once established, are but partially amenable to curative treatment. Under this conviction, I am anxious to bring before my medical brethren a short inquiry regarding the degree of liability of certain clothing districts to the invasion of pulmonary consumption. The conditions, in which a considerable proportion of the inhabitants of these districts are placed, may be expected to modify the prevalent state of bodily constitution. The free use of oil may, for example, be mentioned as one of the circumstances which might be regarded as likely to modify the hygienic conditions of clothing towns, as compared with those of other manufacturing districts.

The efficacy of certain oleaginous medicines, when appropriately administered, may be considered as established; and experiments which I have made during the last seven years induce me to believe that their good effects may sometimes be obtained by their endermic introduction.† Dr. Simpson of Edinburgh has, more recently,‡ with considerable ingenuity, supported the opinion, that the favourable influences to which I have alluded are really enjoyed by those who are engaged in processes which expose the arms and other parts of the body to the contact of oil.

One of the questions to which the data furnished in this communication may be applied is, whether the quantity of oil thus introduced has any decided effect in diminishing the liability to consumption and scrofula? In pursuing such an inquiry, various other circumstances obviously require to be taken into account, the comparative importance of which can be determined only by the aid of those practitioners to whom all the modifying conditions are familiar.

In the sixth annual report of the Registrar-General, there is a return of mortality from different causes for the various districts. I have availed myself of this return, and have calculated the per-centage of deaths from phthisis in some of the towns, of which the population is extensively engaged in woollen manufactory. The result is presented in the accompanying table.

Places.	Deaths from all causes.		Deaths from Phthisis.				Excess or deficiency of female deaths from phthisis.
	Male.	Female.	Male.	Per cent. Male.	Female.	Per cent. Female.	
Rochdale	730	747	162	20.82	190	25.43	+ 4.61
Huddersfield	1060	936	199	18.77	209	22.32	+ 3.55
Bradford and Melksham (Wiltshire)....	449	467	82	18.26	72	15.41	- 2.85
Saddleworth	1260	1114	220	17.46	224	20.10	+ 2.64
Wakefield	500	465	79	15.80	87	18.70	+ 2.90
Frome	721	716	113	15.67	144	20.11	+ 4.44
Stroud	327	383	49	14.98	98	25.58	+ 10.6
Chippenham	519	580	75	14.45	84	14.48	+ 0.03
Leeds	2345	2267	322	13.73	352	15.52	+ 1.79
Dewsbury	650	635	89	13.69	120	18.89	+ 5.20
Bradford (Yorkshire)	1709	1611	231	13.51	310	19.24	+ 5.73
Halifax	1142	1130	153	13.39	172	15.22	+ 1.83
England and Wales	153,090	150,429	24,048	15.64	28,098	18.67	+ 3.03

* This paper was prepared for the Manchester meeting, but not read for want of time. It is hoped that its introduction into our pages will elicit information on the subject which it treats.

† See *Clinical Lectures on Pulmonary Consumption*, p. 73.

‡ *Ed. Monthly Journal*, April 1853.