carditic effusion usually occasions. The movements of the heart, floating freely in the fluid, are not much obstructed; though, when the pericardium is fully distended, the heart must be subjected to compression, resisting the free expansion of its cavities, especially those of the right side, for the reception of fresh supplies of blood, and thus tending to produce venous congestion.

I think we may, however, conclude that the actual amount of effusion was not so large as the vertical extent of dulness might lead us to suppose. The area of dulness had never a corresponding lateral extension; the median line on the sternum was the limit of its extension to the right. It is in chronic cases, in which the pericardium yields to protracted tension, that it becomes expanded laterally into a globular form; but in recent cases the sac retains its more conical figure, rising high towards the clavicle, but without much breadth. This is the only explanation I can suggest of the patient's remarkable freedom from distress even when the pericardial dulness mounted upwards to the clavicle.

The treatment requires no special remark; it was in accordance with recognised principles, as I have explained on former occasions. Some practitioners would have regarded the presence of a considerable amount of fluid in the pericardium as in itself an indication for *tapping*, irrespectively of any amount of distress or immediate danger which it occasioned. In the case to which I have already alluded, I have given my own reasons for not taking this view; and in both cases my own more cautious expectancy has proved that a more daring treatment was unnecessary. The absorption of the fluid was as prompt and decisive as had been its effusion. The whole process was completed within three weeks. Whilst the absorption of the fluid was in progress, the urine was tested for albumen, the absorption of serous fluid being occasionally one of the causes of a temporary albuminuria; but no albumen was present.

So far as concerns the pericarditis, we may consider the recovery to be complete. The form of the inflammation would not be accompanied with much fibrinous deposit; and, by the prompt subsidence of the morbid action and rapid absorption of its products, all subsequent unfavourable results would be obviated. Some valvular defect remains, which must prevent his restoration to perfect soundness. The mental weakness which he exhibited during early convalescence was the result of physical weakness, and has disappeared with recovered strength.

ON THE TREATMENT OF ASTHMA.

By GEORGE GASKOIN, Esq.,

Surgeon to the British Hospital for Diseases of the Skin.

IN the summer of 1870, I was summoned to a lady suffering from an acute attack of asthma. For several nights she had been restricted to the sitting posture, bent over a table, with the forehead resting on her hands. The distress was very great indeed. She was subject to frequent attacks of the kind, complicated to a very moderate extent with catarrh and bronchitic exudation. Her physician, a gentleman who holds high professional rank, was out of town. Nothing had been omitted in the treatment, which of late was simply palliative. She was recognised as constitutionally asthmatic, and little hope was entertained of permanent amendment. The asthma first occurred on the subsidence of nervous symptoms a few years previous. It had not, as far as I am aware, any marked organic basis. There was observable on the legs an eczematous eruption. Under these circumstances, I directed that the chloroform liniment of the *British Pharmacopœia* should be rubbed briskly into the chest for an hour's space, if possible; and this was done daily by a very efficient attendant, who had sufficient intelligence to comprehend and carry out the treatment. Very early, much relief was experienced. On the return of her physician to town at the end of three days, she was already so very much changed for the better, that he directed the treatment to be continued. From that time it consisted in the daily repetition of the rubbing process for a month or nearly so, without aid from medicine, and with little restriction as to diet. Beyond the information I received that she was daily improving, I had really little or nothing to do with her professionally after one or two visits. Under the hands of her attendant, she speedily got rid of the asthma. The patient went out of town in the autumn, and enjoyed perfect health and spirits. She took much walking exercise, with exposure, in the cold of the ensuing winter; and, what is very singular, two years have since elapsed with no return of the asthma.

I shall now make a few observations on this method of treatment. For some years, in Paris, asthmatics have been in the habit of resorting to a rubber in the Boulevard Saint Michel, a certain Widow Pau, who

pursues there very much the method which I have laid down, only that her nostrum is a secret. She is resorted to by a few wealthy people from this country, and has honourable mention in some of our West End clubs. At the end of the treatment, her patients are presented with a little book or *brochure* containing her successes, which may be said to be fairly written for a book of its class. The cure is subject to disappoint for a few days; but generally great benefit will be found in a fortnight, or even in less time. There is a hint that it is best suited to cases with catarrhal and bronchitic complication. The instance which I have here brought forward seems exactly to correspond with those which are boasted of and detailed historically by Madame Pau.

Before giving directions as to how this treatment should be carried out, I will speak as to the *rationale*. Counterirritation, especially by blister, issue, and moxa, are of such well established repute in the treatment of asthma, that I need not dwell on them; but, besides this, a jolting vehicle, anything that leads to displacement of the air stagnant in the vesicles, is proved to give relief in many instances. I should advise, then, that the frictions should be made with such roughness as the case admits. Slight blows with the palm of the hand or the end of a towel on the ribs are quite allowable; and the friction should be extended to the front of the neck at the lower part, where the vagi enter the chest. I do not think that the composition of the liniment need trouble us, provided it be warm and work easily. Anything like Roche's embrocation would answer very well.

I am not without some experience of asthma, and I am persuaded that the present method will be found a valuable addition to our therapeutic means. If proved not to be novel, it must be conceded that it has fallen into utter neglect.

PARACENTESIS IN PLEURISY AND EMPYEMA.

By HENRY WILLIAM FULLER, M.D., F.R.C.P.,

Physician to St. George's Hospital.

THE questions which arise in connection with tapping are so important, and there is so much need for a clear recognition of the *facts* which bear upon the subject, that I must ask permission to make a few remarks as a supplement to the abstract of my clinical lecture reported in the *JOURNAL* of February 3rd.

It is conceded on all hands that, when the fluid effused into the pleural cavity is simple serum, it is advisable to take precautions against the admission of air. No valid reason exists why air should be admitted; and, as the patient can be readily relieved without its admission, it would be obviously unwise to incur even the slightest risk by making a free opening into the pleura. Observation, however, has led me to attach very slight importance to the entrance of air into the pleural cavity; and I am satisfied that the feeling which exists in the minds of many as to its danger originates in prejudice fostered by tradition, rather than in the results of bedside experience.

At the commencement of my professional career, the doctrine was taught that the admission of air into a serous cavity was almost necessarily fatal. So strong a hold had this theoretical view on the current practice of the day, that the pleura was rarely punctured—never, indeed, until the patient was almost beyond the possibility of recovery. By degrees the mischievous absurdity of this doctrine became apparent; and the continued successes of Mr. Spencer Wells and others in cases of ovariectomy have gone far to dispel the illusion, that air admitted into a serous cavity usually sets up putrefactive changes in the secretion of that cavity. Still, many persons remain who cannot emancipate themselves from the thralldom of tradition, and whose minds remain a prey to that morbid fear of consequences which induced our predecessors to withhold from their patients the relief afforded by puncture of a distended pleura. In the *JOURNAL* of February 17th, Dr. Douglas Powell proclaims himself one of those who are terrified at results which I venture to think they have never witnessed, and which exist only in their own imagination. He objects to the admission of air because "it tends to produce such changes in the fluid as cause it to become noxious, and to set up fresh pleurisy." I can only say that, during the whole period of my connection with St. George's Hospital—now upwards of twenty years—I have never seen the fearful mischief thus theoretically predicted by Dr. Powell. In cases of simple serous effusion, I have thought it wiser to defer to the prejudice thus enunciated by Dr. Powell, and have founded my teaching upon it, for the simple reason that in cases of serous effusion no harm could result from my so doing. But in practice I have taken no special precaution to prevent the admission of air. Every case has been tapped which has not yielded to ordinary treatment, and the operation has been performed

in the simplest manner. The integument has been divided by a scalpel, and then a full-sized trocar has been driven into the chest, and the fluid has been allowed to run until the stream has begun to fail. The trocar has then been withdrawn, and the opening closed. In one case only has fresh inflammation been set up or a fatal result followed the operation, and in that instance I believe the *nimia medici diligentia* was chargeable with the unfavourable issue. Urged by a friend who was watching my practice to try the effect of repeated tapplings to a moderate amount, instead of at once evacuating the contents of the chest, I ordered twenty grains of the fluid to be drawn off and the opening at once closed. After the lapse of a fortnight, as there was no evidence of absorption of the remaining fluid, about twenty ounces were again withdrawn, but still without appreciable results. Therefore, after another week, a third quantity of fluid was drawn off. Shortly after this the young woman had a rigor, the secretion from the pleural membrane became sero-purulent, and then purulent, and she speedily died. In this case every care was taken to exclude the air; and, curiously enough, this was the only instance in which I have met with an unfavourable termination to the operation, whether in hospital practice or in private. My belief is, that the repeated tapping was chargeable with the fatal issue. Just as the abdomen or an ovarian cyst may be tapped once or twice with almost certain impunity notwithstanding the admission of air, so, also, may the pleural cavity; but the constant alternation in the tension of the parts caused by the repeated withdrawal of the contained fluid leads, in the one case as in the other, to interference with the nutrition of the part and so to irritation and inflammation.

Dr. Playfair (see our JOURNAL for February 17th) objects to the admission of air even in cases of empyema; and, whilst admitting that when the lung is bound down by firm adhesions there is no alternative but to make a free opening and admit air, he maintains that, where the adhesions are less numerous or less firm, as is often the case in children, the whole of the pus may be drawn off by continuous subaqueous drainage—or, in other words, by means of a drainage-tube opening under water—without admitting air. Practically, I believe, this is rarely possible. It is extremely difficult to put a drainage-tube into the pleural cavity without admitting air, however carefully air may be excluded afterwards. Nevertheless, the plan of keeping the end of the drainage-tube under water may be had recourse to with advantage, especially in recent cases where recovery is likely to prove rapid. By this means the pus is enabled to escape as soon as it is formed, and the object of a free opening into the pleura is attained. Less air finds entrance into the chest than when a mere fistulous opening is formed through the chest-walls, and thus the impediments to the expansion of the lung are lessened.

Dr. Douglas Powell's proposition (see our JOURNAL for February 17th) to employ suction-power, as with an aspirator or a siphon, to empty the chest, is wrong in principle and dangerous in practice. If it be desired to remove only a portion of the fluid contained in the chest, as was done in Dr. Powell's cases, no suction-power is needed, as a considerable quantity will run off spontaneously through any opening in the chest-walls. If it be pretended that by means of suction-power the whole of the pus can be drawn off, I do not hesitate to say that those who make that assertion labour under an erroneous impression. No power at our disposal can either remove or overcome the physical law which precludes the existence of a vacuum in the chest. Without suction-power, the chest may be emptied by tapping to a degree which varies in different cases, but is always commensurate with the extent to which the lung will expand, and the parietes of the pleuritic cavity will fall in. Beyond this, the only thing which suction-power can effect is, to exert traction on the surrounding tissues and notably on the lung, which must be irritated or damaged in exact proportion to the degree of force exerted, and may be torn, bruised, and lacerated, if much suction-power be employed. Indeed, it is obvious that this practice must be attended by much risk without any corresponding advantage. "There is the risk," as Dr. Powell admits, "of the lung as it expands becoming injured by contact with the cannula, and there is some risk of hæmorrhage into the pleura." These risks, together with that of dangerous traction on the lung, which was forcibly illustrated by the case brought by Dr. Easton before the Liverpool Medical Society, and which was threatened, as evidenced by the pain induced, in both Dr. Powell's patients, cannot be lightly ignored. I have seen this plan adopted in two instances: in both of these pain was occasioned by the operation, in both fresh irritation of the pleura was set up, and in both the patients died. Certainly the test of my experience is conclusive against the views entertained by Dr. Powell. Ever since I have been Physician to St. George's Hospital, I have had recourse to tapping in every case of empyema which has come under my care, and have always admitted air. In no instance has a fatal result ensued. The patients have eventually

got rid of the fluid in their chest, and have made a good recovery; in the more recent cases in a few weeks; in the more chronic, in as many months. With these eloquent clinical facts before me, it is impossible to attach much importance to the theoretical bugbears which so manifestly disturb Dr. Powell's mind and influence his treatment. His theory is that which disturbed our forefathers, viz., that "irritation is almost always caused by the presence of air in the pleura," causing "fresh effusion to take place;" that there is "danger of air setting up decomposition in the remaining fluid;" that "so long as air is present" in the pleura, "the patient is, in the chief respect for which the operation was performed, worse off than before" (see *Trans. Clin. Soc.*, vol. iii, p. 249); and that, when air has been admitted into the pleura, "the lung was never of any use for the purpose of respiration." Surely if these phantom theories had any foundation, a large proportion of numerous cases must have proved fatal, and in those who recovered one lung at least must have been absolutely useless. But, in fact, as already stated, the patients have all recovered; and although, in some of the old-standing cases, considerable distortion of the chest has ensued in consequence of the imperfect expansion of the lung, yet in others the recovery has been so complete and the return of respiration so perfect, that Dr. Powell himself would scarcely have discovered on which side the effusion had existed.

Dr. Powell exclaims, "It is surely physically impossible for the lung to expand or the chest to collapse if air be admitted in the place of fluid. What is to expand the lung? what to press in the chest?" The answer to this would occupy much space, and is scarcely needed, since the result of tapping proves conclusively that under the condition referred to by Dr. Powell the lung does expand, and the chest-walls do fall in. I would wish to correct an impression which appears to have been produced by the words made use of in my lecture. I state that in cases of empyema the best practice is to make a free opening into the chest, so as "to empty out the fluid entirely, to enable the lung to expand to its fullest extent, and to enable the two surfaces of the pleura to come together. To withdraw twenty or thirty ounces, and to leave sixty or seventy, would not be of the slightest service." Dr. Powell evidently imagines that by this statement I mean to recommend that a free opening be made into the pleura and be kept open, so that with each respiratory act air shall pass freely to and fro into the chest. This is not my practice, nor is it my wish to recommend it. At the time of tapping, I endeavour to draw off the last drop of pus, and let the cavity drain thoroughly through the opening, the air meanwhile passing freely into the chest. But as soon as the fluid contents of the chest are thoroughly evacuated, a piece of oiled silk is inserted into the wound, and the opening is closed by means of a pad of lint steeped in a weak solution of carbolic acid, and covered with plaister. This, together with the oiled silk, is removed and reapplied daily, so that air finds access to the pleural cavity—freely at all events—once only in the twenty-four hours; viz., when the wound is dressed. If a drainage-tube be used, the end is always placed in water—the object in both cases being to allow the pus to drain off as it is formed, but at the same time not to throw unnecessary obstacles in the way of the expansion of the lungs by the constant and unnecessary admission of air. This, then, is the practice which I advocate; but for the sake of those who have not seen, as I have, cases of empyema opening spontaneously, and who imagine that the constant admission of air must necessarily prevent the expansion of the lung, I would add that in my student-days I have seen such cases make good recoveries, and regain a considerable amount of breathing power on the affected side, although from first to last a free fistulous opening has existed in the chest, for the closure of which no means were adopted.

THERAPEUTIC MEMORANDA.

ON THE PREVENTION OF PITTING IN SMALL-POX.

DR. GRIMSHAW would find the ordinary bituminous varnish, employed by photographers to "back-up" their positive pictures on glass, a more effective varnish than xylonite. Several coatings are necessary; but it dries quickly, forms a dense tight covering, and compresses the papule effectively. I have seen the pustules punctured, and the parts repeatedly painted afterwards with a saturated solution of tannin in glycerine, with very satisfactory results.

It may not be out of place to call attention here to the fact, that in Canada the practitioners, almost without exception, use the crust for the purpose of vaccination. I introduced capillary tubes to the notice of several in Quebec and Montreal, but they preferred to use the crust.

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