spect, the pathological story comes out sufficiently clear. The phenomena observed were, of a positive kind, dyspnœa, orthopnœa, incapacity for exertion, insomnia, left-side pain, altered respiratory movements, paresis of the diaphragm; of a negative kind, healthy state of the lungs, heart, and kidneys, and of the vascular system generally. The family history pointed to the probable existence of the tuberculous diathesis in our patient, and his personal suggested the possibility of traumatic lesion of his brain or cord.

The chief symptom, around which several of the others grouped themselves, was the singular paresis of the diaphragm; and to this, therefore, our attention was specially directed. As a male, he ought to have used his diaphragm very much in breathing; and therefore the inaction of this great muscle was even more significant than it would have been in a female. Such inaction has been observed in empyema and in peritonitis, in advanced cases of progressive muscular atrophy, in sufferers from plumbic toxæmia, and in the hysterical (so called). It has not been observed, but might be presumed, to exist in cases of fatty degeneration of the diaphragm. A little reflection will enable us, looking back, to exclude all these conditions as being in any way concerned in our patient's trouble. There was no sign of pleurisy or peritonitis, of lead-poisoning, or of muscular atrophy; while the result excludes, I suppose, the possibility of fatty degeneration. Nevertheless, I must say I had some suspicions for a while that this morbid change might lie at the root of the matter; and these were not entirely dissipated until the efficacy of the remedies was clearly pronounced. Mr. Callender (*Lancet*, 1867, Jan. 12) has recorded six cases of fatty degeneration of the diaphragm, but they were all complicated with a similar state of the heart; and it does not appear that the state of the diaphragm had attracted attention during life, so that we cannot affirm whether it was paralysed or not.

It remains, therefore, to be considered, whether the symptom in question was a nervous phenomenon—was, in fact, a paralysis of the phrenic nerves. Two possibilities present themselves here—one, that there was actual lesion of the nerve-centres; the other, that the disorder was a paralytic neurosis. The falls which he had undergone—one of them from a great height—might well have injured his cord; but the absence of any paralysis of the limbs or sphincters was an insuperable argument against this view. Had his cord been contused by a fall, the injury could not possibly have been confined to the nerve-cells connected with the phrenic nerve. The second view, therefore, seems the only one admissible. It was corroborated to some extent by the existence of left-side pain, which is extremely common in neurolytic conditions both in males and females, and by the presence also of general hyperæsthesia, and, as it would seem, of spasmodic stricture. The result of treatment was very positive, and leaves no doubt in my mind that no organic lesion existed, and that we had only to deal with a rare variety of neurotic disorder. As I mentioned before that palsy of the diaphragm was met with amongst the hysterical, you will perhaps expect that I should so designate the neurotic paralysis in our case; but I decline to do so, because the patient presented none of the recognised features of hysteria. He had had, so far as we know, no globus, or fits, or aphonia, or dysphagia, or paraplegia. There was no varying or shifting of his troubles from one part to another; no tendency to exaggeration or deception—nothing, in fact, to distinguish him from any *bonâ fide* sufferer. His aspect was distressed, and quite unlike that of some invalids, who assure you with calm countenance that they are suffering “agonies of pain”. I pass by the slight difficulty that our patient did not possess an uterus, and so could not legitimately be reckoned an *ὀστέρικος*. Let me strongly advise you to reserve a place in your minds for the idea of functional paralysis, either depending on remote irritation, or on toxæmia, or simple exhaustion; and to abstain from applying loosely the term “hysterical”. It were better, I think, laid aside altogether, as it will, I suspect, always carry with it a savour of more or less suspicion that the disorder is not genuine, not physical, but more or less consciously simulated. In very many instances this suspicion is unjust, in others it is well founded.

I regard, then, our patient as having suffered from some cause which does not appear a functional paralysis of the centres belonging to his phrenic nerves. Possibly he has an infirm constitution of his nervous system. The hereditary tendency to tuberculosis which he evidently had may have become converted into this other deterioration. It does not seem very clear why aphonia should be reckoned a necessary symptom of palsy of the diaphragm, as has been somewhat too broadly stated. The diaphragm is not an expiratory muscle; and, if a tolerable amount of air be inspired by the other muscles, sufficient to aerate the blood, it seems probable that quite a sufficient current would traverse the glottis during expiration to produce sounds. In fact, it does not appear that the aphonia is at all complete: the patients can speak, but are sooner or later obliged to desist for lack of breath. Eulenburg

says the voice becomes weak, but phonation itself does not suffer. This was the case in our patient, and seems to have been so in the case which Eulenburg relates. In Bazire's case (*vide* BRITISH MEDICAL JOURNAL, 1867, vol. i, p. 597), laryngoscopic examination detected nothing abnormal about the glottis. The vocal cords approximated normally when she uttered a sound. This, however, is scarcely sufficient to prove that the same effort could be maintained for any continuance. It seems rather surprising that disorders of the diaphragm are not more frequent, considering the long course of the phrenic nerves, and their great liability to be pressed on by enlarged glands or indurated exudation-masses in some part of their course. Dr. Bazire well observes that the results obtained by galvanising (faradising) the phrenic nerves will at once indicate whether the palsy is due to a structural alteration, or is merely functional. In the latter case, the muscle will contract powerfully when its nerves are stimulated; in the former, it will respond feebly or not at all. Duchenne was the first to show that paralysis of the diaphragm is not of itself fatal, as had previously been thought; but he observes that, though the patient may survive long, his condition is perilous, inasmuch as a slight bronchitis may induce fatal asphyxia.

A remarkable symptom in Duchenne's patient was, that forced inspiratory efforts, instead of satisfying the want of air which she felt, greatly increased her distress. She expressed very well what she felt at such times by saying that her bowels suffocated her by rising up into her chest. In Bazire's case, however, no such sensation was ever felt; nor was it complained of by E. H., nor is it noticed by Eulenburg in the case he relates. In all these patients, the causation was obscure. The last had certainly been chilled, and got a stiff neck nine days before the paralysis came on; but it seems very doubtful whether this had anything to do with the latter.

In the way of treatment, localised faradisation of the phrenic nerves is advised by Duchenne de Boulogne, and proved strikingly effectual in Eulenburg's case; in Bazire's, it failed; in my own, it was not employed, as the tonics and sedative were so speedily successful. Whatever be the cause of the paralysis, faradic stimulation of the muscle and its nerves seems desirable, although other treatment may be varied according to the special features of the case. Even in the advanced stage of progressive muscular atrophy, faradisation has proved successful in saving the diaphragm.

CONVULSIONS TREATED BY THE INHALATION OF CHLOROFORM.*

By GEORGE MOWAT, Esq., Swansea.

I am glad to have the opportunity of laying the notes of two cases of convulsions, treated by the inhalation of chloroform, before the members of this Branch—not that the treatment is by any means original, but because the satisfactory results have made such an impression upon me, that I cannot but believe we have a remedy in chloroform which is likely to supersede the old remedies which we have been accustomed to use. I can call to mind a large number of cases treated by the warm bath, cold to the head, calomel purges, small doses of calomel frequently repeated, bromide of potassium, etc., the results in which have been anxiously tardy when successful, and in not a few of which death has resulted. I think that in chloroform we have a remedy which will check the fit and give time for after-treatment in all cases where the origin of the attack is sympathetic, reflex, or eccentric; but I should be very cautious in applying such treatment to a case of convulsions occurring during the progress of disease of the brain, for instance. Some years ago I was much struck by the successful treatment of a case of traumatic tetanus, which occurred in the practice of Mr. Parsons of Bridgewater, in which the effect of chloroform was kept up for thirty-six hours or more. I should certainly try its effects in those bad cases of chorea in which the patients do injury to themselves from the violence of the movements, which also prevent sleep.

Dr. Ringer, in his book on *Therapeutics*, says: “Fits of convulsions, especially in children, can be stayed by chloroform; and when they have been prolonged, and exhaustion has been threatened, the child in some cases has been brought from a state of great danger to one of safety, the convulsion being quite stayed, and consciousness restored by the inhalation of chloroform.”

Dr. Churchill, in his book on *Diseases of Children*, quotes a “case of convulsions, complicating whooping-cough, where he used it with benefit; and one in which Sir James Simpson used it with perfect suc-

* Read before the South Wales and Monmouthshire Branch.

cess in an infant five weeks old, who had severe convulsions for nearly a fortnight. He was under its influence for nearly twenty-four hours, allowing him to wake to take food, and he emerged from the sleep perfectly well, and with no return of the fits."

"Dr. Williamson of Manchester has recorded the case of an infant six weeks old whom he kept under the influence of chloroform for sixty hours, sixteen ounces of chloroform having been used with complete success."

The following is a brief account of my own cases.

CASE I.—On March 10th, 1872, I was called to see a child aged two years, whom I found in severe convulsions of more than half an hour's duration. It appeared that, about two hours previously to the commencement of the fit, the child had eaten a hearty dinner of pork and fruit-pie, and that it had been sick once. The contractions of the muscles of the left side of the face and body were very severe: the face was very pale. I had the child placed in a warm bath, while a messenger was despatched to my house for chloroform. The bath not having had any beneficial effect, I proceeded to administer chloroform; the child was speedily brought under its influence, and the convulsions gradually disappeared. The child was placed in bed, and, shortly after its recovery from the anæsthetic effect of the chloroform, it fell into a calm sleep, which lasted two or three hours. A grain of calomel was then administered, followed by a dose of castor-oil; and on the following morning I found the child running about the house, and to all appearances well. The bowels had acted freely, and there had been no return of convulsions.

CASE II.—On September 2nd, 1872, I was called upon to see a child aged eighteen months, who had been in strong convulsions for five hours. I found it with strong interrupted contractions of the flexors of the limbs of the left side, and twitching of the muscles of the face. She was cutting some of her molar teeth. The friends had placed her in a warm bath before sending for me, but without benefit. I immediately administered chloroform, and the child passed imperceptibly into a comfortable sleep, from which she did not awake for three or four hours, when she seemed cheerful and intelligent, and without any sign of convulsion. A grain of calomel was then administered, followed by castor-oil, and the gums were lanced. On the following day the child seemed comparatively well; it had passed a good night, without any return of convulsions. The bowels not having acted freely, the castor-oil was repeated, and was followed by a motion resembling dirty green paint. On the third day the child was convalescent.

ON THE TREATMENT OF ULCERS OF THE LEG.

By J. GORDON BLACK, M.D. Lond.,

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THE perusal of the valuable reports which have appeared in the JOURNAL on the treatment of ulcers, at the various London hospitals, induces me to offer a few remarks, in the belief that good will accrue from the further ventilation of the subject.

It seems pretty generally admitted, that the treatment of ulcers of the leg, in the out-patient room, is unsatisfactory and disheartening. Whilst some instance the intemperate habits, the poorly fed and over-worked condition of the patients, to account for this want of success, I am more inclined to blame a wide-spread belief in the profession, as expressed by Mr. Lawson, of the Middlesex Hospital, that "for the effectual treatment of all ulcers of the leg, absolute rest of the limb is the first element." Having for some time past been in the habit of curing cases of this kind without requiring the patient to neglect his ordinary duties for a single day, I certainly cannot hold such a belief. If it be possible to cure a large ulcer of the leg without rest, and in quite as short a time, to say the least, as would be required to heal the same by recourse to the horizontal position, what becomes of the theory that absolute rest is necessary?

Moreover, during the time that the patient remains in bed, the circulation through the limb is rendered more efficient, and healing of the ulcer ensues; but no sooner are ordinary duties resumed, than the old conditions recur, bringing back with them the inevitable ulcer. A cure, therefore, under the absolute rest system, can scarcely be alleged, because it is not permanent; whereas, if an ulcer be healed without rest, it is clear that a cure has been effected, provided similar therapeutic conditions are maintained. This latter provision cannot, of course, be observed under the former plan of management.

Knowing, as I do, the easy practicability of healing ulcers without rest, I cannot think it proper to admit such ailments to the wards of a

hospital. To do so, seems wasting the funds of the institution, no less than the time and labour of the sufferer. At the same time, it is not creditable to surgery that such patients should be neglected, or given to understand that their weary and loathsome malady is incurable.

The plan which I adopt is practically the same as that recommended by Baynton, nearly eighty years ago, but with the important modification of using it antiseptically. Baynton's strapping has long been recognised as valuable and effective, and is described by Mr. Erichsen under the head of "Indolent ulcer." Such management, however, taxed too severely the time and patience of the surgeon, for its successful practice. Unless the plasters were very frequently removed (Mr. Erichsen says every forty-eight hours, at least), the pent-up discharge became very offensive, causing the dressings to be disagreeable, both to doctor and patient.

In order to avoid these disadvantages, I now warm the plasters by passing them through hot water, to which a little solution of carbolic acid has been added. The sore having been washed clean by the patient, is then saturated with weak solution of carbolic acid, and the straps, first treated as described, applied. The pieces of plaster (stout emplastrum saponis), should be two inches broad, and long enough to overlap four inches, after passing completely round the limb. They should be applied after the manner of a "Scot's dressing," from about three inches below the lowest diseased surface, to about the same distance above the highest. In their adjustment I think it most important to use no compression, but simply to lay them down evenly, so as to fit the limb accurately, and leave no creases in the plaster. Should pain be produced, the strap has been improperly applied, and must be at once removed. The bandaging of the limb, lightly and carefully, from the toes to the knee, finishes the dressing, which latter need not occupy more than ten minutes altogether. The patient may be told to return at the end of a week, when, on removal, the plasters will show only a slight moisture, instead of the profuse and offensive discharge seen when no antiseptic is used.

The advantages of the above plan of treatment are briefly these. It is cleanly; it saves the time and labour of the surgeon, for the dressings need rarely be changed oftener than once a week, and occupy only a few minutes. And finally, whilst the healing process is conducted with a minimum of pain and discomfort to the patient, he is in no way restricted from pursuing his ordinary occupations.

In cases of irritable ulcer, with much pain, Baynton recommended the sufferer to remove the bandage occasionally, and pour cold water upon the strapping for a few minutes, afterwards drying lightly with a soft towel, and reapplying the bandage. The plan is an excellent one, and usually very grateful to the patient's feelings.

Instead of employing carbolic acid, another good antiseptic may be used, namely, sulphurous acid. This is easily applied by playing upon the ulcer and surrounding diseased skin with a Dewar's spray-apparatus. The plasters may then be adjusted, after passing them through hot water, simply. A little smarting ensues, which, however, soon passes off. The effect of the sulphurous acid, in checking discharge and mal-odour, is quite as good as that of the carbolic, whilst its application is perhaps less troublesome and disagreeable. The sulphurous acid is especially suitable to ulcers of moderate size.

Baynton's strapping, especially when used antiseptically, may be employed for nearly all kinds of ulcers. The surface of a weak, indolent, or inflamed ulcer, speedily assumes a healthy appearance, without the preliminary use of astringent, soothing, or other lotions, being necessary. The most irritable sore may be stripped if care, and no compression, be used. Occasionally, however, it may be found advantageous to substitute linen or calico for the plaster straps.

For varicose ulcers, no treatment could be better. The horny edges of the "callous" variety quickly disappear, without recourse to such a dangerous excitant as blistering, which may easily set up unmanageable inflammation in the old or infirm. In eight or ten dressings, even very extensive ulcers may be healed by strapping, so that the cases must be few where skin grafting is really needed.

The administration of medicines internally is unnecessary. In most cases opium may be given to relieve pain, but the healing process goes on steadily, without such assistance.

I observe that Mr. Nourse, of Brighton, has used strapping and bandaging with great success. The plan, I feel sure, only requires more extensive employment to be better appreciated. For the frequent failure of the ordinary treatment by lotions, etc., patients are often blamed, because they do not strictly obey the instructions given. This neglect is, however, due rather to the well-known feebleness of such remedies, than to any lack of pains or inconvenience on the part of the sufferers. On the other hand, the interest which the latter manifest in carrying out directions under the treatment by strapping, is by no means the least recommendation of this method.