

In 1835, M. Pauly was charged to make out a list of the cases successfully amputated to present to the institute, and the researches made for this purpose resulted in his relinquishing all idea of publishing and becoming responsible for the statements of M. Lisfranc; though, at the same time, he deemed it his duty to dissipate the cloud that enveloped this point of surgery, by proclaiming the truths with which his intimate connexions with M. Lisfranc had made him acquainted.

The following are the conclusions arrived at by him in regard to the operation. They are drawn from an inspection of M. Lisfranc's own records; examination of the different theses and cases published by his early pupils; accurate inquiries concerning persons said to have been cured by it; and the author's own personal knowledge of all the cases, both hospital and private, operated on during his three years of internship. As will be seen, they are sadly at variance with those announced by the Professor, and up to this time no sort of explanation or contradiction of them has been given.

1st. The statements made by M. Lisfranc to the Academy of Sciences of his having up to the 2nd of June, 1834, operated upon ninety-nine cases is untrue; the whole number of cases, successful and unsuccessful, up to the 1st January, 1836, being only fifty-three.

2nd. No positive conclusions can be arrived at in regard to the degree of success had in the hospital, inspection of the records having been denied to him.

3d. Of the nineteen cases operated on in private practice, one only has derived any benefit from the operation.

4th. Of these nineteen cases, four have died within twenty-four hours, twelve from an immediate return of the disease, and in the two other cases the disease having been only partially removed, has gone on to a fatal termination, with increased rapidity.

5th. Of the nine cases in which he saw the operation performed, and upon which he remained in attendance during the first twenty-four hours, six have had formidable hemorrhages; and of these six, three have died within the twenty-four hours.

It is impossible, we think, to be too cautious in receiving the statements of one who uses knowledge obtained under the mask of friendship, to the injury of a preceptor and former friend. At best it is a gross breach of confidence, and we hold the author, who is guilty of it, in slight estimation; though, as public journalists, we have felt ourselves bound to promulgate the fact of the assertions of M. Lisfranc being thus openly called in question, and to state that sufficient proof has been given to show that the number of cases reported by him, has been exaggerated; the dangers of the operation misstated; and its fatal results made out as vastly less frequent than in reality they are.

G. W. N.

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ART. XIII. *Recherches sur quelques uns des accidents cérébraux produits par les préparations saturnines.* Par A. GRISOLLE, Docteur en Médecine, chef de clinique de la Faculté de Médecine à l'Hôtel-Dieu; titulaire de la Société Médicale d'observation; membre honoraire de la Société Anatomique; correspondant de l'Académie de Médecine de Marseille, &c.—Extrait de Journal Hebdomadaire des Progrès, &c. Décembre, 1836. Paris, 1836.

*Researches upon some of the Cerebral disorders produced by the preparations of Lead.* By A. GRISOLLE, Doctor in Medicine. Paris, 1836.

In a former number (November, 1836) of this journal, we noticed the thesis of Mr. Grisolle upon lead colic, which has gained for him great and deserved reputation. The present essay is devoted to the consideration of the effects

produced by the introduction of various preparations of lead into the economy, when their action is directed towards the central nervous system. These effects consist of various disorders of the voluntary movements, of the general sensibility, of the intellectual and sensorial functions, &c. As the nature of the affection of the brain which results from the action of lead is entirely unknown, our author has not ventured to designate it by any particular name, but has employed the general phrase "cerebral disorders from lead," (*accidents cérébraux saturnins*.) These symptoms occurred in ten out of eighty individuals affected with lead colic. Monsieur Grisolle first endeavours to determine how far certain conditions of the system and other circumstances are calculated to favour the operation of lead upon the central nervous system. Of the twenty-nine patients thus affected nine were between the ages of twenty and thirty, and eleven were between thirty and forty; and hence he concludes that those persons who are between twenty and forty years of age are more liable to be thus affected than at any other period of life. But before such a conclusion can be admitted, we must be informed of the comparative number of workmen of different ages employed in the manufactories whence the greater part of the above patients were derived. In the absence of positive information on this point, we may remark that it is highly probable that the great majority of the workmen employed were between the ages of twenty and forty, and if so, the inference of our author falls to the ground. Whether our supposition, however, be correct or not, the fact ought to have been noted as forming a necessary part of the calculation, and this leads us to observe, that the numerical system or calculation of probabilities, however sound in principle, is liable to great abuses in practice. In order to arrive at correct results through its means, every circumstance which can materially affect the calculation, should be scrupulously taken into the account, and without this precaution, the method alluded to, although so fruitful in important results when cautiously employed, may lead to the most gross and serious error both in theory and practice.

From the observations of Dr. G., it appears that the action of the red oxyd of lead upon the nervous system, is both more prompt and more powerful than that of the subcarbonate, for among the workmen exposed to the action of the former, the nervous symptoms made their appearance much sooner, and were more rapidly fatal than among those employed in the white lead factories.

It is well known that previous attacks of lead colic predispose to paralysis of the limbs, and the same seems to be the case as regards the acute nervous affections, which we are now considering. One thing, however, is very singular, which is, that these symptoms, although occurring more frequently among persons who have previously had one or more attacks of lead colic, are, nevertheless, less severe under these circumstances than when the individual had been previously free from the disease.

As regards the influence of sex and constitution as predisposing causes, he is not able to arrive at any conclusion.

As regards the exciting causes, Mr. G. observes that it is impossible to say positively that an attack of colic is always the exciting cause of the cerebral symptoms, since in four of the cases these symptoms made their appearance without having been preceded by enteralgia. Nevertheless, it must be admitted that in almost every case they do supervene upon those of colic. The severity, however, of the abdominal affection appears to bear no proportion whatever to that of the cerebral symptom, which frequently supervened in cases when the former were of the very mildest character, and as often proved fatal in the one case as the other.

The cerebral disorders produced by the action of lead upon the central nervous system, assume a variety of forms, which, for the sake of description, Mr. G. classes under three different heads, viz: 1st. Delirium. 2nd. Convulsion

or epilepsy. 3d. Coma. It is rare, however, that the disease preserves any one of those forms completely throughout its whole course. Most commonly the one is replaced by the other without any regular transition, such as is found in most other acute affections of the brain, so that the coma, the convulsion, and the delirium may mark indiscriminately either the commencement or termination of the disorder. After detailing the histories of a number of cases of the disease, our author proceeds to give a general description of it under the different heads above mentioned, and first when it assumes the form of

*Delirium.* This occurred in seven out of the twenty-nine cases which form the subject of the present memoir. In these seven cases the delirium marked the commencement of the affection, and was the predominant symptom throughout its whole course. In four cases it made its appearance whilst the patients were labouring under the most violent abdominal symptoms, whilst in the three others it occurred spontaneously at a time when the abdominal pain had ceased, when the regular action of the bowels had been established, and every thing promised a rapid convalescence. Hence, it is concluded that the delirium is not sympathetic. Its ordinary precursors are head-ache, vertigo, and acceleration of the pulse. It varies very much as to its character, but is generally furious. Although occasionally intermittent, it mostly assumes a continued form, accompanied by irregular exacerbations, which do not always occur during the evening and night, as in febrile affections. During these exacerbations the ideas are incoherent; the patient utters piercing cries, his eyes are haggard, and his paroxysms of fury are so violent that he attacks his attendants; at other times he is frightened and affected with hallucinations. In some these symptoms gradually disappear, whilst in other cases the patient falls asleep, from which he awakes with his intellectual faculties perfectly restored. In this state he may remain for several hours, or even several days, when, without any apparent cause, the same symptoms reappear. There certainly seems to be much analogy between this form of the disease and delirium tremens. In two of the above cases amaurosis was developed and continued some time after the delirium had ceased. Four out of the seven terminated fatally. The *convulsive or epileptic form* of the disease is the most common as well as the most severe of all, for eleven out of fifteen patients thus affected died. Here the patient falls down deprived of consciousness, the general sensibility is destroyed, without convulsions. After a partial recovery from this condition, which commonly lasts several hours, a second attack comes on, accompanied usually with convulsions, the limbs become rigid, face distorted, &c. These attacks are repeated more and more frequently until the patient falls into a state of coma and perfect insensibility. These convulsions, so fatal to man, are not less so to the domestic animals which frequent the manufactories. The *comatose form* occurred in five cases. One of these was attacked in the midst, apparently, of the most perfect health; the others fell into this condition during the course of an attack of lead colic of slight severity, and which was rather on the mend than otherwise. This state of things was preceded by no symptom which leads to the suspicion of its approach except in one case where the unfortunate workman was suddenly struck with blindness.

The three forms of the disease may be combined together or follow one another in the same individual. The duration of the disease is generally short, varying, however, according to the form which it assumes. Relapses are not unfrequent.

Two of those who recovered were affected with paralysis of the limbs, which lasted several months; and one woman was seized with amaurosis, which was never cured. Paralysis of the limbs, or of one or other of the senses, appears to be the only accident which follows as a consequence of the cerebral disorders of which we are speaking. Notwithstanding the analogy which exists between the epileptic form of the affection and genuine epilepsy, this latter

never occurs as a consequence of the former. It is remarkable, too, that those persons who have been subject to epilepsy for many years, and are employed in the lead manufactories, do not find their attacks either more violent or more frequent. Mr. G. further observes:

"That he does not know of a single instance in which an epileptic patient has been cured by a mere residence in the manufactories, and yet this happy result ought frequently to take place if the doctrine of Hahneman be true, for by their residence in a manufactory of white or red lead, epileptic patients are subjected to the two fundamental conditions of all homeopathic treatment."

There is nothing in the character of the cerebral symptoms which we have been considering, which is absolutely peculiar to them, and our diagnosis must be mainly founded upon our knowledge of the circumstances in which the patient has been previously placed, and especially upon the previous existence or simultaneous occurrence of lead colic. The delirium, as was before mentioned, resembles, in some respects, delirium tremens, and might sometimes be confounded with it. In the former we do not often find that trembling of the limbs and lips and the uncertainty of voice which so constantly attend upon the latter complaint.

The prognosis is very unfavourable, since nearly two-thirds of the patients die. It becomes more favourable the longer the patient survives, and it is rare for any one to die after the sixth or seventh day; for, in the immense majority of cases, death takes place during the first two or three days, or even within a few hours after the beginning of the attack.

In a great majority of the cases, post-mortem examination discovered no appreciable lesion in the central nervous system. In nearly one half, however, of those who died, after having suffered under the epileptic form of the disease, the convolutions of the brain were remarkably flattened and the anfractuosities partly obliterated, so that in some cases the hemispheres presented almost an even surface. Hence it is evident that the volume of the brain was augmented, and as the above condition of things was not accompanied either by serous effusion into the ventricles or sanguine congestion, we must admit an absolute hypertrophy or turgescence of the cerebral substance itself.

As regards the nature of the disease, Mr. G. is altogether unable to arrive at a satisfactory conclusion. He thinks, however, that it is not inflammatory, because during life it is not accompanied by fever, is frequently intermittent in its course, appearing and disappearing suddenly without any evident cause; and because, after death, the brain is found either perfectly healthy or free from any lesion which can be looked upon as the result of inflammation.

The treatment must vary according to the form which the disease assumes; all exclusive plans of practice must be discarded. When it shows itself, however, at the same time that the patient is labouring under an attack of lead colic, our attention should be especially directed to the cure of the latter.

Of the efficacy of bleeding in relieving the cerebral symptoms, Mr. G. does not speak in high terms. Although it is proper to abstract blood when the pulse is hard and full, and especially if it be increased in frequency, still, great caution should be exercised; for, on several occasions, venesection was followed by an increase of the symptoms even in cases where the redness of the face and eyes led to the suspicion of cerebral congestion. In no instance did any amelioration follow its employment. Where delirium is the prominent symptom, Mr. G. advises the use of opium, and says, that we must not be afraid of a slight degree of narcotism, which is calculated, in fact, to favour the cure. "Commonly," he says, "the patient sleeps soundly, and upon waking up finds his intellectual faculties restored."

The convulsive form of the complaint is altogether the most intractable. Dr. G. speaks in high terms of cold affusions which were employed in three cases, two of which recovered, and the third was temporarily relieved. In the two

former the paroxysm ceased immediately after the affusion; the patients went to sleep at once, and upon awaking, their intelligence was nearly restored. The affusion should be employed in the interval of the paroxysm, and should be continued for several minutes.

Where coma exists, external revulsions, and especially blisters, are among the most powerful mean which we can employ. It exerts but little effect, however, says our author, when applied to a part considerably distant from the brain. The scalp should be shaved and a large blister applied to its surface. Cold affusion is here, also, sometimes applicable; but it must be more cautiously employed than in cases where delirium or convulsions exist.

T. S.

ART. XIV. *Medico-Chirurgical Transactions, published by the Royal Medical and Chirurgical Society of London, for 1836. Volume the twentieth.* London: 1837. 8vo. pp. 402.

We resume our analysis of the present volume of the *Medico-Chirurgical Transactions*, the first eight articles of which were very fully noticed in our last number. The paper next in order, the ninth, is entitled, "*Pathological and Surgical Observations relating to Injuries of the Spinal Cord.*" By Sir Benjamin C. Brodie, Bart., F. R. S., &c.

This, in almost every point of view, is certainly the most interesting of the seventeen papers which the volume comprises. In relation to the injuries to which, from various causes, the spinal marrow is liable, the phenomena to which these injuries give rise, their relative importance, and the means best adapted for their removal or relief, but little practical or satisfactory information is to be derived from any of the surgical treatises ordinarily consulted by students and practitioners; hence the increased value of the observations detailed in the paper before us, which present a brief but very satisfactory review of each of the above particulars; the name of the author being alone a sufficient guarantee for the general accuracy of his statements and deductions.

We regret that our limits will not permit us to give a full analysis of this excellent paper, which occupies forty-seven pages of the volume before us, and comprises a series of practical observations, derived almost exclusively from the author's own experience. The injuries treated of are—1st. Fractures of the vertebrae without displacement. 2nd. Fractures with depression or displacement of the bone, diminishing the diameter of the spinal canal, and causing pressure on the spinal cord. 3d. Fractures with dislocation. 4th. Simple dislocations. 5th. Extravasations of blood on the surface of the membranes of the cord; which, according to the author, are comparatively of rare occurrence. 6th. Extravasation of blood within the substance of the cord. This extravasation is always of a very small extent, but from its peculiar situation may be productive of the most dangerous symptoms. 7th. Laceration of the spinal cord and its membranes, varying in extent. 8th. Injury of the minute organization of the cord, from a blow inflicted upon the spine, without either fracture or dislocation, and where the investing membranes do not appear to participate in any way in the effects of the injury.

"In such cases, if there be an opportunity of examining the spinal cord at a very early period after the accident has occurred, the central part of it is found to be softer than natural, its fibrous appearance being lost in that of a semi-fluid substance. If the patient survives for a longer period, the alteration of structure is perceptible in the whole diameter of the cord, and occupies from one to two inches, or even more, of its length; and at a still later period it has often proceeded so far as to terminate in its complete dissolution.