

Before proceeding to give details concerning the treatment, it might not be amiss to recapitulate the diagnostic characters of migraine or sick-headache. This affection is essentially neuralgic in its chief manifestation, viz., a severe or excruciating pain in the head and orbit, but not along the superficial branches of the trigeminus. It affects both sexes, from the age of six or ten years to that of forty or fifty. In some patients it makes its first appearance at puberty, and terminates before the sixtieth year. In females it may, after undergoing aggravation or transformation, cease at the menopause. Very rarely does the disease cease before thirty, and still more rarely does it first appear at that age.

Migraine is pre-eminently an inherited disease, perhaps more directly so than any other neurosis. I possess numerous tables of families in which many members of three generations were affected.

Migraine is periodic in its manifestations, nearly as much so as epilepsy; patients have attacks every two months, or monthly, or every week—seldom several in a week. In some women the periodic return of migraine coincides with menstruation.

An attack of sick-headache usually begins in the very early morning, and lasts all day—seldom longer in uncomplicated cases. In many cases certain premonitory symptoms precede the occurrence of pain. The day or evening before the attack some feel unusually bright and well. At the earliest waking on the day of attack there may be chilliness, or numbness of a limited part of the body, dim vision, colored vision, or hemiopia. These optical disorders are of exceeding interest, and are best observed in those patients whose attacks begin some time after rising. They usually last less than half an hour. Although amblyopia, hemiopia, photopsia are often very serious symptoms, yet in migraine they lose their prognostic significance. In other persons nausea is an early symptom. Pain follows upon the above disturbances and sometimes makes its appearance without them. It is usually in one side of the head, hemierania; deeply placed "in the brain" or "back of the eye," as patients tell us; it grows in intensity, is sharp, or beating, or pressing, and may reach such a degree of severity that patients strike their heads violently against hard objects, use chloroform, or beg for hypodermic injections of morphia to obtain relief. During the existence of this pain, which may extend to the rest of the head, there is hyperæsthesia of the eye and ear, great irritability, pallor of the face, cool skin, intense nausea, and severe vomiting. So prominent a symptom is vomiting, so early does it appear, and so abundant is the matter ejected, that the sufferers generally, and, I regret to say, physicians occasionally, consider the headache as caused by "biliousness;" thus reversing the true order of cause and effect. For a

while after vomiting there may be some relief to the suffering.

Toward evening the pain diminishes in intensity, changes its character to a dull general headache, and after a night's sleep the patient awakes quite well; in many cases feeling better than before the attack. Sometimes, however, in gouty subjects, or in women at the menopause, headache more or less typical will endure for two or three days.

It should be added that there are cases in which no nausea or vomiting appears; and patients are disposed to separate these from the category of sick-headache, and speak of them as "nervous headaches." I believe that these two varieties are of the same general kind,—of the migraine type.

It would be out of place in this short paper to trace out the varieties and transformations of migraine, and I have only said enough of the symptomatology to make it unmistakably clear what are the cases in which the plan of treatment about to be presented is applicable.

The pathology of migraine is one of the most open questions in medicine, and I can only briefly state my own opinion, reached by a careful study of physiological considerations and clinical data. I believe, with Anstie and many others, that a lesion (at present undemonstrable) exists or occurs in those parts of the pons and medulla oblongata which give origin to the sensory roots of the trigeminus. Various systemic states, and various irritations from the external world, the abdominal organs, the cerebrum, serve to provoke the attacks.

One very potent exciting cause of attacks is mental overwork or anxiety; another generally recognized is that condition of the system in which oxalate of lime appears abundantly and frequently in the urine, and in which uric acid quickly separates from it—in brief, acidity, or a gouty disposition. Indigestion may also be an exciting cause.

Guided by the above pathological and ætiological notions, I have treated migraine by—

1. Treating the patient, and removing all exciting causes.
2. Treating the attacks themselves.
3. Treating the disease, or the supposed fundamental pathological state in the nervous system.

First.—The treatment of the patient consists in removing all relievable exciting causes, and more especially in correcting acidity. For this purpose I employ the ordinary means, viz., giving nitro-muriatic acid and alkalis, and greatly reducing the saccharine and amylaceous foods of the patient. In cases attended by debility, anæmia, and imperfect nutrition, it may be necessary to resort to tonics, including cod-liver oil.

Second.—Treatment of the attack. The first thing to be done, in my opinion, is to place