

the patient under circumstances which secure quiet and semi-darkness. The attempt to "fight out" a sick-headache is nearly always vain, and may be injurious. It is better not to allow the patient any food, not even liquids, until toward the close of the attack, or even not till next day; by this, nothing is lost, and much wretchedness is avoided. Ice, or ice washed in brandy, is grateful.

If the patient have a warning aura of migraine before nausea or pain, much can, I believe, be done to cut short the attack or diminish its severity by the use of guarana, caffeine, or croton chloral hydrate. In my hands, guarana, or the powder of the seeds of *paullinia sorbilis*, has proved very efficacious. I have prescribed the fluid extract of guarana, Caswell & Hazard's Elixir of Paullinia, the French Paullinia powders, and powdered guarana prepared by our druggists, and all of these preparations have in my hands often cut short or prevented attacks, if given in the early stage of the disorder.

Of the elixir or fluid extract I give a teaspoonful, to be repeated twice, at an interval of an hour. The powders are administered in twenty or thirty grain doses, also repeated every half hour or hour. I think that I may report that nearly one-half of my patients have derived great relief from some preparation of guarana, and that in several of them attacks have been absolutely prevented, and they have been enabled to go about on the same day.

Caffeine, in doses of two grains, repeated every hour, until three or four doses have been taken, I have lately employed, upon the recommendation of my friend Dr. Geo. M. Beard, and it has appeared to do good.

Croton chloral hydrate, recently recommended in all neuralgic affections of the head and face, I have recently prescribed in doses of 15 and 20 grains, repeated every hour until four doses are taken or relief obtained. This remedy is to be used more especially in cases where pain is the first symptom, and in other cases if seen when the pain is fully established.

I have no personal experience with the use of large doses of bromide of potassium and of alcoholic stimulants, for the relief of attacks.

Hypodermic injections of morphia and atropia (gr. $\frac{1}{3}$ to $\frac{1}{2}$, and gr. $\frac{1}{60}$) have permanently relieved attacks in a few of my cases; but I am very reluctant to employ this means, so fraught with the danger of the formation of the opium habit. I never allow my patients to take opium or morphia themselves in this disease.

I would add that there is very probably a real ultimate usefulness in shortening or preventing every attack which may threaten to occur during the systematic treatment of the neurosis; we may thus be doing a good deal to interrupt the *morbid habit* which the nervous centres have acquired.

Third.—Treatment of the disease. No treatment of this sort had been tried, to my knowledge, before Dr. Greene made his remarkable researches upon the effect of *cannabis indica*. Dr. Greene reported cases of many years' standing as having been months and years without attacks while and after taking *cannabis indica*, and in other extremely bad cases marked reduction in the frequency and severity of the attacks was obtained.

I have said, in the opening page of this small contribution, that I and a few medical friends have used the *cannabis* treatment ever since Dr. Greene's publication, and with satisfactory results.

The principle of the treatment is to keep the nervous system steadily under a slight influence of *cannabis* for a long period of time; in other words, we are to employ the "continued dose" of the remedy, as Clarke and Amory say, in speaking of the use of bromide of potassium in epilepsy.

I give to adult females one-third of a grain of the alcoholic extract of *cannabis indica* before each meal, increasing the dose after a few weeks to one-half grain. Males can generally begin with one-half grain, and it is well to give them three-quarters grain in two or three weeks. These doses must be taken with the greatest regularity, just as faithfully and regularly as bromides in epilepsy. Indeed, when beginning such treatment, I usually obtain a promise from the patient that he will regularly take the pills for a period of three months.

As a rule, no appreciable immediate effect is produced by the above doses, though I have known lightness of the head and slight confusion of mind to result from an initial dose of one-half grain three times a day.

Under this apparently and essentially simple plan of treatment, I have known what may be termed excellent results to be obtained. Of course, I do not mean to say that all my patients have been benefited, but, without a statistical table, so difficult to construct from the experience of private practice, I feel certain that about one-half of my cases have been relieved. A few—two or three—after being more than a year without return of their migraine, have passed from under immediate observation. One of these now very rarely has headache, although for several years he has taken no medicine. The majority of patients relieved have obtained months of freedom from attacks while taking the remedy.

I think that we may say of *cannabis* for migraine that it is nearly as efficacious as the bromides in epilepsy. Both *may* cure, both *do* bring about remarkable interruptions in the series of attacks, both must be employed in the shape of the continued dose.

Cannabis in migraine is less effectual than the bromides in epilepsy, but, on the other