CLINICAL LECTURE

ON

NERVOUS OR SICK-HEADACHES.*

Delivered at Addenbrooke's Hospital, Cambridge.

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It is well known that the vision is disturbed by a diminished supply of blood to the brain—as, for instance, in the faintness which is induced by hæmorrhage. The patients become giddy; everything appears dark before them; perhaps they have, moreover, flashes of light before their eyes, or noises in their ears, and then become insensible, and sink to the ground. How often do we hear from persons who are dying from asthenia such expressions as the following? “How dark the room is”; “I can’t see”; “open the shutters”; telling us too plainly that the heart is powerless to drive the blood onward to the brain. Now, in one instance which came under my notice, the person who had been occasionally troubled with the form of headache we are considering, stated that he once fainted. “I was very much fatigued, and had run quickly up some steps, when I tumbled on the floor; the faint was only momentary; I immediately recovered myself, and took the nearest seat. On sitting up, everything became dark before me, so I leant forward and put my head between my knees. I then noticed the appearance before my eyes; it had precisely the same character as the wavy glimmering which preceded the headaches, but was much darker, more marked and extensive; it only lasted half a minute or three-quarters, then entirely passed off, and no headache followed.” Here is another account which strongly supports the view I take of the phenomena. “I had not been troubled for two or three years with these blinding headaches until one morning, as I was sitting at breakfast, the symptoms showed themselves. I had been overworked for some little time, and felt chilly and irritable as I sat at table. I was looking sideways at the window, watching the falling snow, when I noticed that one of the panes of glass appeared as though warped and waved, the lines of snow becoming indistinct at the part; as I moved my eyes, the other panes of glass presented the same appearance; then on looking at the wall, I recognised my almost forgotten enemy; there was a distinct glimmering at the right side quite at the edge of the field of vision. I immediately lay down on the couch with my head low; the appearance of glimmering gradually extended itself over more than half the field of vision, and continued for about twenty minutes. I noticed that it was less distinct when I lay on my left side than when I lay on my right; when it was declining, as I turned to my right side, the movement was more plainly perceptible. The headache on the left side had been gradually increasing; my feet were very cold, and when the glimmering had almost disappeared, I got up and drew an easy chair to the fire, but had not been seated more than a minute, when the glimmering became more distinct and appeared to extend. I at once lay down again, when the disturbance of vision soon ceased, and the headache took its place.” This disturbance of vision, then, is due to defective supply of blood to one side of the brain from the contraction of the cerebral arteries, probably of the middle cerebral. In the case which I have just read to you, there was loss of tone about the cerebro-spinal system from overwork; the brain is no longer able to inhibit the action of the sympathetic; a slight cause serves now to excite the action of the latter nerve; it affects more particularly the cerebral artery of the left side, causing glimmering on the right side of the field of vision. The glimmering is lessened by adopting a posture which allows the blood to flow readily towards the part affected. The patient rises before the optical disturbance and the excitement of the sympathetic are entirely over; in the erect posture the blood is driven with less force to the brain, and, with the lessened pressure on the arteries, these contract more strongly, owing to the still excited state of the sympathetic, and the glimmering increases. The patient lies down again, the blood is driven with increased force to the brain, the resistance of the arteries is overcome, the action of the sympathetic is exhausted, and the same condition results as is observed after section of

this nerve. The vessels become distended, the head throbs and aches, and the pupil contracts. If we take this view of the disorder, you will perceive that it has (as was first suggested to me by my friend Dr. Edward Liveing) a relationship, though happily a very distant one, to epilepsy. The contraction of the cerebral arteries, the tingling in some portion of the body and twitchings of the muscles, which, as you see, are sometimes associated with it, suggest the resemblance; whereas it differs widely from that terrible disorder in that it never threatens life, it is never associated with unconsciousness, and I have never heard of its passing into epilepsy. On the contrary, with advancing age the attacks, as a rule, become much less frequent. They cease generally after fifty or sixty, and in women not uncommonly at the change of life.

There is no *à priori* reason why the sympathetic nerve of one side only should be affected, and therefore the disturbance of vision only affect one eye, except that in nervous disorders generally, such as chorea, epilepsy, tic douloureux, etc., one side of the body is often much more affected than the other; but the statement of Sir John Herschel, the fact of posture increasing or diminishing the intensity of the glimmering when it exists at one side or other, the succeeding headache commencing unilaterally, all tend to support the view that the affection at least commences on one side of the brain. The other side may, and probably does, become involved, if the glimmering spread over the whole field of vision. If the attacks, however, begin with the disappearance of objects at or near the centre of vision, I think, then, that both sides are equally affected; and this may explain the fact why with some persons the headache is uniformly diffused and does not make itself felt at one spot more particularly than another.

Another question arises: Why is there in some cases (1) disturbance of vision without headache following; in others (2) disturbance of vision followed by headache; in others again (3) headache preceded by disordered sensation, but not by disturbed vision? I think this may be explained by the more or less relaxed condition of the vascular system in the different cases. If the muscular fibres of the arterial system be only slightly relaxed, a very little irritation of the sympathetic nerve may be sufficient to diminish the supply of blood and cause the disturbance of vision, etc.; but the exhaustion of the nerve would also be slight, and consequently the blood-vessels would not be dilated sufficiently to produce headache. Let the muscular fibres, however, be in a feebleness condition, then, after the effort of contracting, they will relax more completely, and headache will result; and lastly, if they be in a still weaker state, then the action of the sympathetic may not excite contraction sufficient to diminish the supply of blood to such an extent as to cause disturbance of vision, etc., but sufficient to produce mental depression, coldness of the extremities, etc.; or a very slight effort at contraction may be followed, from the state of the vessels, by considerable dilatation and headache. The condition (3) might also be explained, however, by the supposition that different branches of the blood-vessels in the brain are affected than is the case when the conditions 1 and 2 show themselves.

Lastly, though looking on this as a nervous disorder, it is easy to see that if the theory advanced be true, or near the truth, gastric derangement, or any other derangement which will irritate the sympathetic nervous system, may be an exciting cause; and it is well known that irritation in the stomach or intestines has a powerful effect on the sympathetic nervous system, so that the terms “sick-headache” or “bilious headache”, implying that the disorder has arisen from derangement of the abdominal organs, may not in some cases be altogether inapplicable.

Adopting, then, this theory—and you must recollect, gentlemen, that it is advanced not as certain and proved, but only as possibly true—what are the indications for treatment with which it supplies us? Let us consider separately the remedial measures to be adopted (1) during the stage of disturbed sensation, (2) during the stage of headache, and (3) during the intervals between the attacks.

1. *During the Stage of Disturbed Sensation.*—In the forms attended with disturbance of vision, you will find that in the same individual the longer this stage lasts, the greater will be the headache; and therefore we must endeavour to shorten it as much as possible. If the condition, then, depend upon deficient supply of blood to a part, such means must be adopted as shall assist and increase the flow of blood to the part; and this can be done in some measure by posture and stimulants. Directly the glimmering appears, the patient should lie down with the head as low as possible, and if the glimmering be on the right or left of the field of vision, he should lie on the *opposite* side. Let him take at once a full sized glass of sherry; if at hand, half a bottle of soda-water is a useful addition. Champagne would be preferable, being more diffusible; but its administration would often involve a little de-

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lay, and at the commencement of an attack it is a great point to save time. A large tablespoonful of brandy diluted may, if the patient prefer it, be substituted for the sherry. If alcoholic stimulants be objected to, or if it be not advisable to recommend them, then a teaspoonful of sal volatile in water may be prescribed instead. If the patient be chilly or his feet cold, the couch should be drawn before the fire and a hot bottle applied to the feet. By these means the heart is enabled to drive the blood with greater force to the brain, and the duration of the vibratory movement is thereby materially lessened. After it has passed off, the patient should lie still for a time, so that the glimmering may not return. This injunction will only be necessary when the headache is slight; if it be severe, attended with much nausea or vomiting, the patient will be little disposed or able to leave the recumbent position. If, instead of the disturbance of vision preceding the headache, there be a feeling of depression or irritability, fidgets, etc., the administration of such cerebro-spinal stimulants as henbane, valerian, assafoetida, spirit of chloroform, or ether, will often cut short the attack; ten or fifteen drops of the tincture of henbane, with the same quantity of spirit of chloroform, will soothe the nervous irritability in the slighter forms, and may be repeated in three or four hours, if necessary. If there be great mental depression, then valerian or assafoetida should be tried. Stillé says: "Nothing is more astonishing in the operation of remedies than the promptness and certainty with which a dose of valerian or assafoetida dispels the gloomy visions of the hypochondriac, calms the hurry and agitation of nervous excitement, allays commencing spasms, and diffuses a soothing calm over the whole being of one who but an hour before was a prey to a thousand morbid sensations and thick-coming fancies of danger, wrong, or loss." I give the preference to valerian, and prescribe from half a drachm to a drachm of the ammoniated tincture. The assafoetida may be given in the form of the spiritus ammoniæ foetidus of the *Pharmacopœia*, also in half-drachm or drachm doses. As a rule, alcoholic stimulants are not advisable here. A small quantity will cause flushing, heaviness, slight confusion of thought, etc., without relieving the depression; and though the severe headache may be averted, alcoholic stimulants do not answer so well as the remedies previously mentioned.

2. *During the Stage of Headache.*—If the headache be slight and the patient soon able to sit up, there is little to be done; a cup of coffee or tea, cheerful conversation, a walk, drive, or ride, may often help to remove the pain. If, however, the headache, nausea, etc., be severe, then the administration of further remedies is called for. The patient should keep perfectly still and quiet, with the room darkened; for every sound or sight causes pain, and the slightest movement is sufficient to produce gastric uneasiness. Sometimes free evacuation of the contents of the stomach, especially if it contain undigested food, is followed by relief. Dr. Fothergill says, "an emetic and some warm water soon wash off the offending matter and remove these disorders," which may be very well where there is any offending matter to wash off, but it is not very often that this is the case; the nausea frequently continues long after the contents of the stomach have been discharged; an inverted action of the duodenum is set up; the bile appears in the fluids excreted; the patient believes that all his troubles are due to "its overflow;" "it's all liver," he says, and it is sometimes difficult to persuade him to the contrary. Generally, then, you should try to relieve and check the vomiting. Iced soda-water, with or without two or three drops of dilute hydrocyanic acid, or spirit of chloroform; cold tea; the effervescent citrate of potash, with hydrocyanic acid, may often afford marked relief. The headache may be lessened by applying cloths dipped in cold water, or evaporating lotions to the head; if the extremities be cold and the headache severe, a warm stimulating foot-bath can be tried so soon as the nausea will allow the patient to sit up. If the attacks occur in the early part of the day, as soon as the pain has subsided, it is generally better for the patient to sit up, or move about, or take exercise in the open air. A young lady, on consulting me for this disorder, said: "Nothing relieves these headaches except a good gallop on my pony. I have sometimes to lie still for three or four hours before the pain is bearable; but directly I am able, I mount my pony and always return home better." During the attack the appetite is diminished, the idea even of food provoking disgust. Still, after the nausea has passed away and the headache has continued a few hours, a plate of soup or some easily digested food will often have a good effect in equalising the cerebral circulation. A remedy which may very often be given with advantage if the headache be severe, is bromide of potassium, in doses of 5, 10, or 15 grains, to which 30 or 40 minims of sal volatile may in some cases be added with advantage; and if the nausea still continue, these may be given in combination with the effervescent citrate of potash. A saline purgative at the commencement of an attack is sometimes an effectual remedy; but, as a rule, the use of purgatives is objectionable.

So far, the measures which I have suggested are only palliative. We come now to the consideration of such as are preventive, or to the treatment necessary during the intervals between the attacks. First of all, you must try to find out the exciting cause, and endeavour to remove it. Hours of study or work must be abridged; excessive bodily fatigue, loss of rest, everything in fact, must be avoided which the sufferers know from individual experience will act as exciting causes. Where the attacks are associated with excessive mental work, they should be regarded as danger-signals, showing necessity for relaxation. In the next place, you must endeavour to improve the tone of the bodily and nervous systems by proper medicinal and hygienic means; and the chief remedies which I employ are steel, strychnine, and cod-liver oil. The success, however, following these remedies depends a great deal upon the way in which they are administered. For a day or two after the attack the stomach and bowels may possibly be disordered, and not in a fit state to tolerate such remedies. This must first be corrected. The simple vegetable bitters, such as gentian, with small doses of henbane and some aromatic, may be of service, and, if necessary, one or two grains of blue pill, with four or five of compound rhubarb pill, may be given at night. We may then try steel. If the attacks have been very frequent, or if there be any scrofulous tendency, I give the iodide of iron in the following form. $\mathcal{R}$ Ferri et ammon. citrat. gr. v; potassii iodidi gr. ij; aquæ 3j; and I add, according to circumstances, 15 to 20 minims of tincture of henbane, or 20 or 30 minims of aromatic spirit of ammonia. If the stomach be at all irritable, I give this in the effervescent form, adding to each dose 20 grains of bicarbonate of potash, and directing it to be taken with a tablespoonful of lemon-juice or a corresponding amount of citric acid: the dose to be taken twice a day, about 11 and 4. I soon leave off the effervescent form, and then add to each dose five minims of liquor strychniæ, omitting the henbane and sal volatile, and continuing the iodide of potassium according as it seemed to be indicated or not. In other cases, I give the citrate of iron and ammonia with strychnine at the beginning, and sometimes combine them with infusion of calumba. The iron is indicated by the greater or less anæmia of the patient; but the strychnine is, in my opinion, a very important remedial agent in the disorder. In small doses it acts as a simple tonic, increasing the appetite and improving the digestion; it dilates the vessels, and thus increasing the supply of blood, it augments the activity of the spinal cord (Harley). It promotes the capillary circulation, and therefore its use is advisable for persons troubled with cold hands and feet (Anstie); and if it fulfil these conditions, it is clearly indicated in the disorder which we are considering. Cod-liver oil also often acts very beneficially. "It has been found by experiment that great exertion and prolonged labour can be endured without fatigue when starchy and fatty foods are alone eaten. . . . and there is reason to think that cod-liver oil is more easily absorbed than other similar substances" (Ringer). "It improves the digestive process, increases the proportion of red corpuscles in the blood, and invigorates the whole nutritive function" (Wood); and I believe it particularly sustains the energy of the brain during prolonged mental exertion. A gentleman in the foremost rank at the bar told me that, whenever he was engaged in a jury-trial which was likely to tax his energies to a greater degree than usual, the thing which best sustained him was a good dose of cod-liver oil taken in the morning before going into court: and others engaged in mental work have confirmed this view. I therefore regard cod-liver oil as having, besides its other properties, a nutrient and tonic action on the cerebro-spinal nervous system. As a remedy for these nervous headaches, I only prescribe it once a day, beginning with a small teaspoonful immediately after breakfast, and gradually increasing the quantity to a tablespoonful, but not beyond, unless in exceptional cases.

You must take care to regulate the action of the bowels, but by no means have recourse to strong purgatives. Five grains of the Socotrine aloes pill, given at night, are generally sufficient. If the bowels be habitually constipated, then no remedy seems to answer so well as the aloes and iron pill. Five grains given twice a day, half an hour before meal, will act freely; and in a few days you will have to diminish the dose, for the remedy possesses this advantage, that its effect is augmented instead of being lessened by continual administration, especially when strychnine is given at the same time. The natural waters of Friedrichshall or Marienbad may in many instances be of service, given as laxatives.

Besides the remedies to which I have called your attention, others have been recommended, such as arsenic and quinine, caffeine, etc. Where anæmia is not a prominent symptom, they may sometimes be of service.

Lastly, you must lay down stringent rules for your patients with regard to diet and exercise, and you must impress upon them the importance of these rules being strictly observed.