

me with a case, which is also of interest on account of the superficial optic neuritis which exists.

Migraine does not appear to affect one sex more than the other, but if any difference does exist the preponderance is in boys. Precocious sexual development in either sex often leads to this form of headache. It is astonishing at what an early age evidences of sexual irritation may appear. Bad associations and influences lead a child into thoughts and practices that are unwholesome in the extreme, and bring about disorders of the whole nervous system. Even before puberty the nervous system undergoes a preparatory change, and if there be evil conditions in the surroundings of the child to excite sexual irritation, puberty is hurried forward. Under these influences a child becomes hypochondriacal and mopy, complains of various ailments—some of which are real and some fancied—and may suffer from real neuralgias. It is very seldom that we meet with migraine in robust and hearty children; but it is seen in those who do not get enough fresh air, and who are thin and pale; or in children who think and read too much, and who do not romp and play, but prefer to sit with older people and drink in conversation far beyond their years.

The symptoms of migraine in young children are not far different from those in adults. The attacks are markedly paroxysmal, occurring from two to six weeks apart, and become more or less frequent, according as the conditions for their development are favorable or otherwise. There may be only one or two attacks a year. The attacks may be preceded by premonitory symptoms, such as chilliness and a form of lassitude, and the child is dull and indisposed to play. Sometimes there are subjective ocular symptoms in the form of specks floating before the eyes, *muscæ volitantes*, or balls of fire, and bright zig-zags. Occasionally the child complains of hemipia. These symptoms last a half hour or more and may be followed by subjective numbness of the tongue, lips or of the entire half of the body. Putnam had a patient in whom in boyhood migraine was represented by repeated attacks of numbness and tingling of the right side of the face and right half of the body, with aphasia, and hemianopsia, followed by but trifling headache, or none at all. Later in life there were severe attacks of pain. Usually as soon as the subjective auras disappear the pain begins. At first the pain is dull, and it may be confined to one side of the head; generally, in children the pain is on both sides of the head, at least they complain of the pain as being general, and it may be either frontal or occipital; most frequently it is frontal. Anstie says this is common of all neuralgias of children—i. e., to be frontal, and to affect both sides simultaneously. There is often nausea throughout the attack, or it may terminate in vomiting, or a free flow of urine, or sometimes there are two or three diarrhetic stools. After the crisis is reached the child may fall asleep, and after a nap waken

well. The attack does not always terminate in a crisis; after a gradually increasing headache for several hours it gradually subsides. The face in the beginning of an attack may be pallid, and as the pain increases the face becomes deeply flushed, and the eyes suffused.

The treatment must be preventive and curative. If a child is of a neurotic family, in which there are already instances of neuralgia and migraine, we should urge the parents to see that he has as wholesome a life as possible. Insist on ten hours' sleep at night, and keep him from too prolonged application to his books. Six or seven hours of study in the twenty-four is enough for a growing child. Encourage out-door sports of all kinds, and, if possible, keep such a child in the country for many months in the year. The diet should be abundant and nutritious, milk, eggs, soups and broths, with meat in moderation, and the various cereals, and plenty of vegetables and fruit. Such children can eat largely, and plenty of fatty articles of food is well borne and is of great advantage. There is a great tendency, in the education of both girls and boys, to over-cramming, and to over-stimulation, to reach a high educational standard; but it is encouraging to see the effort which is now being made in our schools to vary and widen the course of study. The introduction of manual art into the public schools is of inestimable value to the children, not only because it gives them dexterity and skill in the use of the hands, which becomes of practical advantage later in life, but it trains the minds in studies which are, so to speak, external in their kind. As physicians, we cannot too strongly discourage the taking of young children to the theatres, where not only the late hours and bad air are injurious, but the impressions produced by the plays must be pernicious to an extreme. One cannot go to the theatre now without seeing children of all ages looking on at every variety of performance, from the most décolleté spectacular ballet to a melodrama of the highest intensity.

If a child has already begun to have attacks of migraine, nothing is of more value than attention to the general health. Such children are often pale and thin, and have but little appetite. If change of air can be secured, it is often enough to obtain relief from the attacks. If we cannot send the patient away, we must resort to tonics and good feeding. Cod liver oil, if it can be borne by the stomach, is of the greatest possible use in such cases. If the child cannot take oil, we must introduce fat into the system in some other way. Cream and plenty of butter may be given. Devonshire clotted cream, which is now to be obtained at the Alderney dairies, is relished very much by children.

Special anti-neuralgic drugs are seldom indicated in these cases, but sometimes the bromides may be given with great advantage, especially in those children who are of a very nervous temperament, and in whom any effort at brain-work causes