**Six cases of epilepsy due to ametropic eye-strain / by George M. Gould.**

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# SIX CASES OF EPILEPSY DUE TO AMETROPIC EYE-STRAIN.

BY

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of Philadelphia.

That epilepsy has been caused by imbalance of the ocular muscles and cured by operation has been asserted, but this cannot be true if, as I believe, the incoordination of the external ocular muscles is itself the result of ametropia. That ametropia does occasionally cause epilepsy is, I think, beyond question by those who have studied the facts with a genuine scientific spirit. To the large number of cases of this kind which have already been reported, I wish to place on record the epitomized histories of six others. I have selected from my records only those instances in which cure has been immediate, certain, and complete, and in which it has persisted for several years. I have had a large number of cases in which there has been more or less relief, and especially when the previous conditions were variant phases of the infinitely varying condition called *petit mal*.

*Case No. 5,349.*—The patient was a man, aged 36, who came to me in September, 1898. He had been refracted without a mydriatic by others during the past 16 years, and of course had never had his ametropic error properly corrected. For 14 years he had suffered from insomnia, which had of late grown worse. There was also headache and pain in the eyes. During this time he had been afflicted with frequent attacks of unconsciousness. Just how often these occurred was difficult to make out, as he never fell or had convulsions; he only knew they were "frequent." I found his ametropia was:

R. + S. 2.25 + c. 0.62 ax. 90 = 20/40
L. + S. 2.25 + c. 0.50 ax. 90 = 20/40
with slight exophoria.

Since wearing the spectacles prescribed, coupled with strengthening of the adduction-power, he has had but two or three slight and short attacks of unconsciousness that he knows of, he at once began to sleep better, his headache and exophoria disappeared, and he is now greatly improved in health.

*Case 5,352.*—The patient was a man of 25, who came to me in September, 1898, and who on account of his symptoms had been obliged to resign his position in a bank. He had also been refracted without a mydriatic, and his glasses were the reverse of correct. There was a family history of insanity and epilepsy. He complained of occipital headache, pain in the temples and

neck, and sick headache. During the past year he had been much worried by what were plainly attacks of the *petit mal* type; but the symptoms most hard to bear were what he called "thickening of the tongue," with loss of memory, and blurring of the vision. After prescribing glasses for his low, compound, hyperopic astigmatism against the rule, all of these symptoms began at once to abate. He had but one slight attack of "thickening of the tongue" during the three weeks following, and in two months all his symptoms had disappeared, he was gaining in flesh, and he was happy. In two years he began to be frightened at obscure symptoms which he feared might finally become the same as those from which he formerly suffered. I found his ametropia had changed, and since ordering new lenses I have not heard from him. He promised to return in two years.

*Case 6,173.*—The patient, a woman of 45, came to me in October, 1900, in a bad state of health suffering with all the symptoms of eye-strain. There had also been chorea. Seven years ago she had eclampsia, and since then, every two or three days, except when under the influence of bromid, she had attacks of unconsciousness, in which she frequently fell to the floor. Bromid medication served only to postpone these attacks for a week. She had 4° of exophoria and 4° of hyperphoria with an irritating degree of compound hyperopic astigmatism. I corrected her ametropia, her presbyopia, and her hyperphoria with one pair of bifocal lenses, and from that time to May 1, 1902, she has had but one slight epileptic attack that her husband knows of, and she is greatly improved in general health.

*Case 5,097.*—A man of 22 came to me in February, 1898, with opticians' glasses not correcting his astigmatism of 1.37 D. ax. .90 in each eye. During the last six years he had had six or seven epileptic convulsions, the aura being a trembling of the left arm. In the last two seizures he had bitten his under lip badly. After he began wearing the cylinders I ordered, he at once gained flesh, was more healthy; he has not had an epileptic fit since.

*Case 2,633.*—This is particularly of interest to me because I was so convinced that the man's epilepsy could not be due to his small ametropic error that I at first refused to prescribe glasses. He was sent to me in March, 1893, by a physician in New York State, who was certain that his symptoms pointed to severe eye-strain. He was 43 years of age, just the age, be it noted, when presbyopia was beginning to make itself irritatingly manifest. For six months he had been "running down in health." Whenever he attempted to read his eyes troubled him (he called it "weakness of the eyes"), followed by occipital pain, and if he persisted there was objective vertigo and great sleepiness. The chief complaint was of attacks of dizziness occurring often in the street, associated with nausea. He would sink to the ground, and then would have to be carried to a carriage and driven home, where he remained in bed in a semiunconscious state ("as if drunk"), usually for the rest of the day. These attacks had occurred two or three times a week. Under a mydriatic I found his only ocular abnormality was one-half a diopter of hyperopia in the right eye and one diopter in the left eye. I told him I did not believe his epilepsy was due to eye-strain. I had him examined by a competent aurist and rhinologist with a negative result. As it was a matter of awful seriousness with the poor man, I sent him to the most distinguished diagnostician in Philadelphia, who after thor-

ough study thought all the symptoms indicated a tumor of the cerebellum. Before sending the thoroughly disheartened man home I finally said to him I would prescribe the glasses indicated for his slight hyperopia, anisometropia and presbyopia. I told him that he could lay aside the distance-glasses in two months if his epileptic seizures continued as before. He weighed 127 pounds at this time. I did not hear from him or see him for about two years, and supposed that he had become a confirmed epileptic or had died. He now came back for a change of glasses, as he had had some disquieting signs of a possible return of his old trouble. From the day he left me he gained one pound a day until he reached his normal weight, 172 pounds. He has never had a seizure or a very decided epileptic symptom since. His static refraction remains the same; I have changed his reading glasses several times. He was well and healthy a year ago.

*Case 5,738.*—This patient, a man of 37, came to me October 14, 1899, with a history of typical *grand mal* attacks, biting the tongue, etc., for 25 years. He had also excruciating headaches, and much indigestion. As near as he could estimate, the attacks had numbered about 12 a year. I found his error of refraction was:

R. + S. 0.75 + c. 0.62 ax. 75° = 20/20
L. + S. 0.50 + c. 0.62 ax. 75° = 20/20

This especially with perfect acuteness of vision in both eyes constitutes a defect infinitely more irritating to the nervous system than regular astigmatism of far higher degree. I prescribed correcting lenses. I saw this man last on April 28, 1902. In the two and one-half years that have elapsed he has never had a fit nor a headache; there is now no complaint of indigestion, and he has good health. One year and a half after I first prescribed he read fine print long and late during one evening, and this use of the eyes brought on a kind of a mild epileptoid attack that so frightened him that he came to me the next day to see if the glasses were still correct. I found a considerable change in the refraction had taken place, and ordered new lenses, now worn with entire satisfaction.

It may be said, as it has been said, that in the experience of others, eye-strain is not a causal agency in the production of epilepsy. In reply one should not need to remind: 1. That undoubtedly eye-strain is not the most common, and perhaps it is a relatively uncommon cause of the disease. 2. That however seldom it may be the cause it should not be neglected, on account of the terrible mystery and incurability of the dread affection. 3. That the relief of eye-strain is far from certain with the prescription of glasses, even by the most reputable of oculists, because there are a hundred ways in which the prescription may not be correct, the glasses improperly worn, or the ametropia quickly changed.