

Unilateral rotary nystagmus / Alexander Duane.

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UNILATERAL ROTARY NYSTAGMUS.*

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The following case is reported on account of its rarity: Mrs. O. B. A., aged 24, first seen May 10, 1906. For several years, but especially during the past few months, has noticed that at times she sees double (one object rising vertically out of the other) and that the objects she is looking at appear to dance up and down. Has also noticed when looking in a glass that the left eye oscillates. Six years ago had a suppurating gland in the neck which was removed two years later. Typhoid fever three years ago. Has otherwise been perfectly well.

Both eyes normal exteriorly. Fundi normal, except that in both, but especially in the left eye are groups of punctate brown or blackish dots in close relation with the retinal vessels. No atrophy of adjoining chorioid or retina and interior otherwise normal, although details of left fundus are somewhat blurred by the nystagmus. Vision, 15/15 each; under homatropin shows for far distance, R. + 0.50 + 0.25 cyl. 155°; L. + 0.50 + 0.25 cyl. 40°. Fields and color fields, pupils and pupillary reactions normal.

Excursions of eyes normal in all directions, but converging power is weak (convergence nearpoint 6 inches from root of nose). Tendency to slight vertical diplopia in various parts of the field of fixation, but this is evidently due, not to paresis of any of the ocular muscles, but to the nystagmus. That is, the only way in which she sees double is that an object looked at will suddenly separate into two images which then rhythmically unite and separate again.

* Read before the American Ophthalmological Society, June, 1906.

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In the right eye no trace of nystagmus; not the slightest oscillation being detected even with the ophthalmoscope. In the left eye at times no vibration, at times true nystagmus, consisting of rapidly repeated, short, quick, to-and-fro oscillations. In the primary position the nystagmus seems to be sometimes mixed (vertical and rotary), at other times purely rotary (opposite to the hands of the clock). When the eyes are directed to the right, the nystagmus is largely vertical; when they are directed to the left, the nystagmus is slow and mainly rotary. Nystagmus is present also when the eyes are directed up or down. If the head is tilted to right shoulder marked rotary nystagmus; when head is tilted to left shoulder slow rotary or more marked vertical nystagmus. Nystagmus not arrested by covering either eye and seems rather more marked when the left eye alone is used for fixing. It is also somewhat greater in forced convergence. No evidence of ear disease beyond a slight catarrhal otitis media.

Careful examination by Dr. Joseph Collins shows absolutely no evidence of organic nerve disease nor of disease of any of the organs. Examination of the urine shows no abnormality. No evidence of digestive toxæmia. The patient was directed to wear constantly the glasses fully correcting her astigmatism and hyperopia; to practice convergence by looking sharply at a pinhead gradually approximated to the eye, and to exercise regularly with a stereoscope (Wells' diagrams).

The case is interesting on several accounts:

1. It is an instance of *unilateral rotary* nystagmus. Unilateral nystagmus itself is rare, only some 50 or 60 cases having been reported. Of these the large majority are vertical. In my summary of 52 cases published a year ago,¹ I found that 34 were vertical, 11 horizontal, 5 rotary, and 2 mixed. Of the 5 cases of rotary nystagmus noted in this summary, one occurred in my own practice and was described in the article. It seemed there to form one of the initial symptoms of a general paresis.

2. THE SYMPTOMS.—These were (a) Apparent oscillating movement of objects looked at. This is frequently present in acquired nystagmus and particularly in the unilateral form. (b) A peculiar

1. New York State Journal of Medicine, July, 1905.

oscillating diplopia. This could occur only in a unilateral or at least in an asymmetrical nystagmus. (c) The fact that the patient herself could see her own eye oscillate when she looked in a glass. This also, as Alfred Graefe points out, can occur only in the unilateral form.

3. THE CAUSATION.—As pointed out in the article referred to, unilateral nystagmus when developed after the age of infancy, is due to (a) Unilateral amblyopia or squint. (b) Unilateral opacity of the media. (c) Unilateral astigmatism. (d) Nervous disease, especially multiple sclerosis.

In the large majority of cases squint or some other one-sided muscular anomaly is present. In the present case no one of these features was found. There was no anisometropia, no ametropia of any amount, no unilateral amblyopia except such as was due to the nystagmus itself, no squint or other muscular deviation except a slight convergence-insufficiency, and no evidence of nerve or ear disease.

4. TREATMENT.—Treatment has helped in a few cases of nystagmus. Such treatment has consisted in correction of the astigmatism or other refractive errors, relief of the muscular abnormality by tenotomy or advancement, removal of cataract or other opacity causing amblyopia, exercises with the stereoscope, practice in reading with a perforated diaphragm, and exercises in maintaining fixation in different position of the gaze.

In the present case the refraction was fully corrected. Convergence exercises seemed indicated on account of the convergence-insufficiency and it was thought that systematic practice with the stereoscope would, especially in a case of unilateral nystagmus, facilitate the restitution of a perfectly co-ordinated movement.

REMARKS AS TO THE NOMENCLATURE OF NYSTAGMUS.

Distinction Between Nystagmus and Pseudo-nystagmus.—In regard to this and similar cases I would like to emphasize a point that seems to me of distinct practical importance. Many, especially among the neurologists, group under the head of nystagmus, two sorts of tremor, viz.: (a) The short, usually rapid, rhythmical and effortless, to-and-fro oscillations which in many cases occur when the eyes are in the primary position, and which, even when they

occur in secondary positions of the gaze never have a jerking character. This is true nystagmus. It is not necessarily nor, indeed, usually associated with defects of the eye muscles *per se*. (b) Jerking, rather extensive oscillations expressive of effort and not always rhythmical, which occur only when the eyes are carried toward the end of their excursion in some special direction. In my belief such oscillations always indicate deficient power or at least exhaustion or irregular action of the muscles themselves. It is properly denoted nystagmic twitching or pseudo-nystagmus.

Now, as Uhthoff, who has insisted upon this distinction, shows, pseudo-nystagmus occurs in a great variety of nervous diseases, and indeed, often occurs in persons who are quite healthy. It has therefore, very little diagnostic significance. On the other hand, true nystagmus, not due to optical defect nor dating from childhood, and not traceable to occupation, as in miners' nystagmus, nor to ear disease, is characteristic of only a few affections, notably of multiple sclerosis, cerebellar disease, and syringomyelia. Hence, as a sign of nerve disease it is of considerable diagnostic importance. It seems, therefore, important, that the distinction between these two forms of tremor should be carefully observed.