



10 Young Cases of Accomodative Spasm in Turkey

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Abstract

Background: Spasm of near reflex; is a rare disorder involving esotropia, accomodative spasm leading to pseudo-myopia and intermittent and variable episodes of pupillary myosis. It is usually of functional origin and is most common in young patients.

Aims: To point out the first case serie of accomodative spasm in Turkey, involving 10 young cases.

Methods: Between 2014 and 2022, the files of the who had blurred vision, moderate or high level of myopia in autorefractometer values and were found to have emmetropic or mild hyperopia in cycloplegic drop examination were retrospectively analyzed. All the cases did not have any organic or travmatic history of clinics.

Results: The ages of our cases ranged from 5 to 20 years old. All the cases were girl. All cases had been diagnosed by Psychiatry Clinics as psychogenic and hysteria background, had pseudo-myopia and emetropic cycloplegic refraction.

Conclution: Spasm of near reflex or accomodative spasm is a rare clinic presentation. Clinicians should always bring this clinic to their mind if a young girl complaints about blurred vision and pseudo-myopia. Clinicians should avoid unnecessary tests to this cases.

Keywords: cycloplegic refraction; psychotherapy; accommodation spasm; blurred vision; spasm of near reflex

Introduction:

Spasm of the near reflex; is a rare disorder involving esotropia, pseudo-myopia and intermittent and variable episodes of pupillary myosis triad. It is usually of functional origin and is most common in young patients. Spasm of the near reflex causes by excess and involuntary accomodative spasm. In the cases of spasm of the near reflex, sometimes cases have all the findings; esotropia, pseudo-myopia and myosis which make up the triad of near reflex spasm but sometimes only one or two of the findings of the the triad can be found in the cases. Especially, when only pseudo-myopia is seen in the cases of spasm of the near reflex, this clinic situation can be called only 'Accomodative Spasm'. Although there are organic, functional and traumatic causes among the reasons, the reason is mostly functional in mostly young and female cases. The fact that the cause is not due to a traumatic or organic cause can easily be understood by an experienced clinician with a simple history or a brief review of the laboratory results of the patient's previous referrals. In this way, many laboratory and radiological tests would be avoided. When it is understood that the cause is functional, this is usually because of hysteria, anxiety or depression. Treatment options of accomodative spasm or spasm of the near reflex have varying success. In cases where the etiology of spasm is suspected to be hysteria, anxiety or depression, the benefit of psychotherapy has been proven [1-8].

In published case reports or case series; cycloplegic drugs, negative or positive lenses, miotics, special concealing glasses, narcosurgery, psychotherapy in recent publications treatments have been reported to be effective in the treatment of accommodative spasm. However, the effects of these treatments are variable [2-11]. Accommodative spasm is an uncommon and rare clinical picture. Generally, this picture has been reported as a single case or small series since the start of 1900s (1-8,10-12). Symptoms in this clinic situation, in order of frequency in various series; blurred vision (71% -100%), diplopia (62%), headache (24% -56%), ocular pain (37% -47%), photophobia (24%) were reported [1-13]. In routine clinical practice, in the absence of any ocular pathology, strabismus or amblyopia, in young patients, it is aimed that they can see 20/20 in Snellen charts during refraction examination with the idea taken from the autorefractometer values about their refractive error, if constant. Although in the absence of any ocular pathology, strabismus or amblyopia, if the young patient can not see 20/20 during refraction examination despite the added lenses by the autorefractometer values, hysteria, anxiety or depression or malingering should be brought to mind by experienced clinicians [1-5,7].

Methods:

Between 2014 and 2022, the files of the cases who applied to the Ophthalmology clinic of Mugla Education and Research Hospital and who had not used or prescribed any glasses before, had visual impairment for a recent or medium period, had moderate or high level of myopia in autorefractometer values, could not see complete (20/20) in refraction examination and who were found to have emmetropic or mild hyperopia in cycloplegic drop examination were retrospectively analyzed. All the cases did not have any organic or traumatic history of clinics. All about the cases included to this retrospective study had normal biomicroscopy and fundus examination.

This retrospective study was performed in accordance with the tenets of the Declaration of Helsinki and with the approval of theUniversity Medical School of Medicine Ethics Committee (Registration Number: E-72855364-050.01.04-265101).

Results:

We had 10 young female cases who fit these features. The ages of our cases ranged from 5 to 20 years old. All the cases complaint about blurred vision. No case had diplopia, headache, ocular pain, photophobia. All the cases had pseudomyopia. Esotropia and myosis was not seen in our cases. Blurred vision could not be corrected by added lens which are referred from autorefractometer. After cycloplegia, emmetropia or mild hyperopia was seen in all cases. All in our cases, the reason of accommodative spasm was about hysteria, anxiety or depression caused by some of their problems about their family or school. All of them was referred to Psychiatric Clinics due to have the benefit of psychotherapy. In order to avoid involuntary and unnecessary accommodative spasm which lead to pseudo-myopia, short acting cycloplegic drugs were prescribed to all cases (Table1).

Discussion:

Pure accommodative spasm or spasm of near reflex has been tried to be presented with both case report and case series since the early 1900s from all over the world [1-8,10-12].

While there are studies published in the form of single case reports rather than case series in Turkey, in our first case series study in our country, we have seen that all cases had been diagnosed by Psychiatry Clinics as psychogenic and hysteria background, had pseudo-myopia and emmetropic cycloplegic refraction. The ages of our cases ranged from 5 to 20 years old. All the cases were girl. In literature, most of the cases were girls too [1-13].

Problems that do not make much sense for adults may cause anxiety in children, especially girls. Significant differences before and after cycloplegia should suggest possible anxiety or depression in these children or young adults, and these cases should be referred to the relevant Psychiatric Clinics. Ophthalmologist should avoid unnecessary lab or radiology tests.

There are different recommendations for the treatment of accommodation spasm.

Long and short acting cycloplegic agents are widely used by other authors [1-8,9-11]. Atropine reduces the accommodation spasm by causing paralysis in the ciliary muscle, but it has some side effects [1,2,4,7,12,13]. We prescribed short acting cycloplegic agents (Tropicamide %0,5, 1x1) before they go to sleep, especially who had not the benefit of psychotherapy in short time, but they advised not to stop the follow up by psychiatry clinics. In order to avoid the side effects of tropicamide, we preferred %0,5, rather than %1.

Accommodative spasm is not an easy clinic situation to treat unfortunately, because of its' functional origin. This patients should be under the control of both ophthalmology and psychiatry departments. Anxiety or depression are not easily be treated by psychiatry clinics, and needs always a long time for treatment. In addition to advices of psychiatry departments to our cases, we also advised them to take sun light more than usual by the fact that sunlight increases dopamine activity which leads to decrease depressive symptoms, anhedonia, fatigue, and psychomotor retardation [14,15,16].

Case Number	Age	Sex	Symptom	Spherical Equivalent Before Cycloplegic Drugs	Spherical Equivalent After Cycloplegic Drugs	Reason of Anxiety Disorder	Treatment
1	13	Female	Blurred Vision	R:-6,00 L:-6,25	R:-0,50 L:-0,75	Domestic violence	Psychotherapy and Cycloplegic Drugs
2	20	Female	Blurred Vision	R:-4,25 L:-6,25	R:+0,25 L:+0,25	Family Unrest	Psychotherapy and Cycloplegic Drugs
3	7	Female	Blurred Vision	R:-9,50 L:-9,50	R:+0,25 L:+0,25	Conflict With Her Teacher At School	Psychotherapy and Cycloplegic Drugs
4	5	Female	Blurred Vision	R:-3,50 L:-3,50	R:+0,75 L:+0,75	Conflict With Her Teacher At School	Psychotherapy and Cycloplegic Drugs
5	20	Female	Blurred Vision	R:-4,50 L:-4,50	R:+0,25 L:+0,25	Family Unrest	Psychotherapy and Cycloplegic Drugs
6	10	Female	Blurred Vision	R:-9,50 L:-5,50	R:+1,00 L:+0,75	Conflict With Brother At Home	Psychotherapy and Cycloplegic Drugs
7	13	Female	Blurred Vision	R:-3,50 L:-3,50	R:+1,00 L:+0,75	Conflict With Sister At Home	Psychotherapy and Cycloplegic Drugs
8	11	Female	Blurred Vision	R:-4,50 L:-5,50	R:+0,75 L:+0,75	Unhappiness At School	Psychotherapy and Cycloplegic Drugs
9	11	Female	Blurred Vision	R:-8,50 L:-7,50	R:+0,75 L:+0,75	Her Father Passed Away	Psychotherapy and Cycloplegic Drugs
10	12	Female	Blurred Vision	R:-5,50 L:-5,50	R:+0,50 L:+0,50	Unhappiness At Home	Psychotherapy and Cycloplegic Drugs

Table1: Demographic Characteristics Of our Patients

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