

## "Simulation in Ophthalmology"

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Visual alterations without any actual organic disease is common in ophthalmological practice accounting for 1% of visual problems. The term 'non organic visual loss' is coined for the same when no abnormality is detected between the cornea and occipital cortex. The said NOVL could be due to psychogenous or due to result of simulation. In psychogenous the patient is not aware of the dysfunction whereas in simulation patient pretends to be suffering from visual diminution for any psychological benefit or financial gain.

Here are the examples of 2 clinical cases referred to us who were later diagnosed to be simulators:

### 1) *Clinical case 1:*

This is a case of a girl from Jatni, cuttack district aged 9 years referred for blurring of vision since 1 week. The visual acuity in RE 6/36 and LE 6/24. So refraction under cycloplegia was determined to discard any refractive errors and the result was +0.75 in both eyes. All other ophthalmological exploration was normal. However in the waiting area we noticed that she was moving around without any difficulty and playing with pen & making drawings with ease even under the effect of cycloplegia. Also on deeper questioning it revealed so that she happened to be adopted at age 7. Somehow all her symptoms seemed disproportionate & simulation was suspected. The mirror test was applied and she could see line 6/18 with both eyes. Considering the fact that mirrors duplicate distances, her visual acuity should be around 6/9 both eyes. We later reassured parents and her visual acuity happened to improve to 6/6 both eyes through regular check-ups.

### 2) *Clinical case 2:*

Another girl of age 11 years from banki village, cuttack district referred to us due to poor vision without

apparent organic cause. Her visual acuity being 5/60 in both eyes with refraction under cycloplegia of +1.00. All other ophthalmological tests were normal and supplementary tests like VEP, ERG, fluorescein angiography done privately were also normal. We later enquired about her family and behavior. Her mother told that she was the only girl child among 3 siblings with poor performance in school and living in a joint family where her father is away in most days. Temper tantrums were shown on small issues sometimes. It was decided to carry out confusion test with +6.00 diopter spherical lenses which was gradually neutralized with negative lenses. Monocular VA was recorded as 6/9(RE) 6/12(LE) and binocular being 6/9. We reassured her parents about child's vision and advised for follow up.

### *Discussion:*

NOVL is more common in females and usually in first 2 decades of life. The determination of true VA in simulators can be carried out in many ways.

In the first case the mirror test done is based on the property that flat mirrors have 2 duplicate distances. Initially patient's VA assessed at 5m then placing a mirror in front with snellen's chart at the back of the patient. If he is unable to read the same line it means his acuity is double of what was told initially.

In the second case, the test consists of placing +6:00 diopter spherical lenses in front of both eyes and adding negative lenses to allegedly affected eye until neutralization. The acuity obtained would be that of the eye with alleged poor vision.

The simulation of the visual field defects require specific perimetric tests to detects correct visual acuity. Similarly simulation for night blindness detected by dark adaptometry, ERG etc

Differentiation between psychological disorder and simulation disorder is difficult when psychopathological involvement is not obvious. Diagnosis in such cases is assisted when secondary benefit is determined and by the demanding attitude of the patient.

Childhood simulation known to be very common, consists of 1-5% of children visiting eye opd. Psychiatric disorders like stress, anxiety, attention deficit disorder, depression, hyperactivity are quite prevalent among children with functional visual loss. This includes mono or binocular VA defects, colour vision defects, spasm in accommodation which is associated with headache photophobia diplopia or periorbital pain. So it is suspected when symptoms are inconsistent with exploration and data obtained on detail enquiry. Majority of cases resolve spontaneously by advising parents & referring for psychiatric treatment.

**Summary:**

In today's world ophthalmologist should have enough knowledge on simulation. Simulation is a frequent disorder which can be diagnosed by numerous outpatient tests prior to imaging and electrophysiological tests. These tests are either subjective or objective. Examiner should not hesitate to hospitalize or to use sophisticated instruments such as electrodiagnostic tests, OCT, dark

adaptometry etc when needed to obtain convincing evidence especially for medicolegal purposes.

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[Article in Spanish]

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