Convergence spasm (CS) means intermittent episodes of convergence, miosis and accommodation with disconjugate gaze mimicking abducens palsy. The organic causes range from metabolic to host of neurological and opthalmic diseases that we describe. It was first described as a presentation of psychogenic disorders by von Graefe as early as in 1856. Nonetheless, patients exhibiting this sign are often subjected to plethora of unnecessary, sophisticated and invasive diagnostic procedures. Such functional cases were treated with either cycloplegic/placebo eye drop or amytal abreaction. Though epidemiological studies suggest that conversion disorder is equally prevalent in industrialized nations and developing countries, a few cases of functional CS are reported from West including Asia, that to, decade(s) before and none from India, to the best of our knowledge. We illustrate a case of functional CS with photograph after consent from patient and its successful treatment.

**Key words:** Convergence spasm, dissociative disorder, functional convergence spasm

**INTRODUCTION**

Convergence spasm (CS) is characterized by intermittent episodes of convergence, miosis and accommodation associated with disconjugate gaze mimicking abducens palsy. The organic causes are: Encephalitis, aromatic L-amino acid decarboxylase deficiency, tabes dorsalis, post-myelography, thyroid disease, primary failure of accommodation, vertebrobasilar ischemia, attempts to overcome vertical gaze palsy, metabolic encephalopathy, brain stem pathology and multiple sclerosis. It has also been described as a presentation of psychogenic disorders first in 1856 as “acute spasm of accommodation”, in 1918 as “spastic hysterical convergent strabismus” and then in 1983 and 2002 as conversion disorder. Those who exhibit this sign are often subjected to plethora of unnecessary, sophisticated and invasive diagnostic procedures. These “functional” cases were treated with either cycloplegic/placebo eye drop or amytal abreaction. Though epidemiological studies suggest that conversion disorder is equally prevalent in industrialized nations and developing countries, a few cases of functional CS are reported from other parts of world including Asia, that to, decade(s) before. This does not mean that cases of functional CS have vanished in recent times. And to the best of our knowledge, this case is first from India. We illustrate a case of functional CS and its successful treatment.

**CASE REPORT**

The present index case is about a 27-year-old, married female patient who presented to the Neurology and subsequently to the Psychiatry Department of our Institute with complaints of seeing (both eyes) each object as double and placed by the side of each other. Diplopia would be binocular, intermittent, exclusively occur during the episodes of apparent involuntary...
inward deviation of both the eyeballs, lasting for few minutes to half an hour. She could resume household work after few hours of bed rest. On examination: Diplopia was present in the horizontal plane; miosis with preserved light reflex; no weakness in the extra-ocular muscles of eye; normal optic disc; no nystagmus; normal perimetry and normal detailed neurological examination including cranial nerves. Brain computed tomography (CT) scan and CT angiography (to rule out basilar artery aneurysm), magnetic resonance imaging brain, electroencephalography (EEG) with provocative procedure including video EEG, repetitive nerve stimulation of extra-ocular muscles, thyroid function test, liver-and renal-function tests and serum electrolytes were normal. Episodes could be induced by the maneuver\(^{(1)}\) (subject was instructed to focus on the finger, tip at 10 cm away on either side of extreme lateral gaze for 5 s. Examiner’s finger was then slowly brought about 10-20° from extreme lateral gaze towards midline. Examiner observed disconjugate gaze and miosis. Patient was asked if diplopia was present). Furthermore, episodes could be terminated by verbal suggestion and distraction.

After 4 months of complaints of double vision, in addition, she had episodes of unresponsiveness without any features suggestive of true seizure. However, there was amnesia for the episode. She hailed from agrarian and traditional family of rural Punjab. She was chronic somatizer with histrionicity and health anxiety; psychosocial stressor (husband: Bipolar affective disorder with alcohol dependence, strained interpersonal relationship, physical and emotional abuse); secondary gain (concession from household chores, more than adequate care from family, multiple hospital visits and diagnostic tests).

The fact that episodes of CS were inducible, responded to suggestion/distraction, demonstrable organic pathology were absent, traits such as somatization and histrionicity and psychosocial stressor were present and evident secondary gain substantiated the functional cause for the diagnosis.

She improved considerably with reassurance; empathic validation and acknowledgement of her symptoms and psychological distress; cutting down secondary gains; progressive muscle relaxation; supportive psychotherapy; family therapy; problem solving strategy for psycho-social stressors; adequate treatment of husband’s bipolar disorder and alcohol dependence. No placebo eye drops or amytal interview were used unlike few previous reports\(^{(5,6)}\).

**DISCUSSION**

In today’s era of availability of modern diagnostic aids and economic empowerment, the patient and caregiver (including physician) get tempted to do “glamorous” and “sophisticated” diagnostic tests, sometimes undermining the importance of careful clinical examination. Moreover, consequent to sea change in psychiatric diagnostic systems, diagnostic and statistical manual of mental disorders-5 (DSM-5) emphasize on “positive features of examination”\(^{(6)}\) and incline to discourage giving too much emphasis on psychosocial stressor as opposed to the conventional “mind set” of physician’s and psychiatrist’s “negative diagnosis approach” in making the diagnosis of conversion disorder.

CS has been described as psychogenic sign and in conversion disorder as a few case reports\(^{(5,6,9)}\) as “frequently” occurring in “hysteria,” sometimes as it’s only symptom.\(^{(10)}\) In one series\(^{(11)}\) of eight patients with CS, long term (mean 8.3 year) follow-up did not reveal any organic etiology. Improvement noted with placebo eye drop therapy\(^{(5,11)}\) and treatment with suggestion and amytal interview.\(^{(9)}\) However, we have not used any such method in our case.

When unrecognized as a sign of a psychogenic disorder, the presence of CS may lead to unnecessary and invasive procedures reflected in five cases with an erroneous sixth nerve palsy diagnosis that resulted in unnecessary “carotid arteriography, pneumoencephalograms and craniotomy”\(^{(7)}\) as in our case. Had detailed psychiatric assessment with emphasis on positive diagnostic approach (as highlighted in DSM-5, recently) been done earlier, may be some unnecessary investigations, development of secondary gain leading to prolonged unresponsiveness and its functional consequences could have been prevented.

In a recent study\(^{(2)}\) authors elicited CS in 36 subjects who were having either psychogenic movement disorder or non-psychogenic movement disorder or did not have any problem (controls). They observed that induction of CS (by a maneuver as described in our index case) was more in psychogenic movement disorder when compared with the other two groups.

In addition, in the psychiatric circle it is a belief that double vision can very well be functional, but when during routine examination pupil is observed to be constricted (as in our case), one tend to think in the line of “some organic cause”, thereby, perhaps, ignoring the thorough psychiatric assessment. We want to highlight this fact by illustrating such a case. A photograph of the patient focusing on the eye to reflect disconjugate gaze is presented for better understanding [Figure 1].
CONCLUSION

Based on the above case report, it can be concluded that there is relatively scarce literature available on CS as a presenting symptom of conversion disorder from Asian countries and none from India. In the setting of a history of episodic diplopia with miosis and disconjugate gaze, one should suspect functional cause. And a psychiatric consultation could potentially be valuable for confirming the suspicion, preventing iatrogenic damage by unnecessary invasive tests or inappropriate medications and more importantly in the further management.

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