ABSTRACT

Convergence spasm refers to the inappropriate occurrence of the near triad, consisting of ocular convergence, miosis, and accommodation, in variable degree and duration. Although convergence spasm may be present in the setting of midbrain pathology and other organic lesions, the majority of cases are generally thought to be associated with conversion (somatization) disorders1-2 and are often found in young patients with psychogenic disorders. Patients presenting with convergence spasm may be subjected to unnecessary invasive workup.

METHODS

The presence of normal conjugate gaze at rest and in all directions of movement was ascertained by asking the patient to follow the examiner’s finger. Also, a degree of vergence was determined by asking the patient to focus on the examiner’s tip of the finger while the examiner moved closer and closer to the patient’s tip of the nose. The subjects were then instructed to watch and count stripes as an optokinetic tape was moved by the examiner in both horizontal and vertical directions. To elicit convergence spasm, the subject was asked to focus on the examiner’s finger, with the tip at about 10 cm away from the face, at either extreme lateral gaze for 5 seconds. The examiner’s finger was then slowly brought about 10-20 degrees from the extreme lateral gaze toward the midline and the presence or absence of disconjugate gaze and miosis was noted. The patient was asked if diplopia was present. The oculomotor examination was videotaped and the video segments were later edited, randomized, and presented to two independent raters (J.F.B.C. and A.H) who were “blinded” to the diagnosis. The Fisher’s exact test trended toward significance with p=0.081 for a comparison of the three groups classified as absent (0) versus present (1 or 2).

RESULTS

The presence of marked convergence spasm indicates high probability of a co-existent psychogenic movement disorder with relatively high specificity, suggesting that the presence of this sign provides additional support for the diagnosis of psychogenic movement disorder.

Convergence spasm was present in 9/13 (69%) of psychogenic movement disorders cases, 4/11 (36%) of non-psychogenic movement disorders cases, and 4/12 (33%) of controls. There was an agreement on convergence spasm scores by the two raters in 24/36 (66.7%) of examinations (Cohen’s Kappa of 0.484, SE 0.121, p=0.001). Classification by presence (rating 1 or 2) versus absence (rating 0) showed good agreement (27/36 or 75%; Kappa 0.491, SE 0.141, p=0.002). Analysis for presence of marked convergence spasm (rating 2) yielded agreement in 32/36 (88.9%) of examinations (Kappa 0.582, SE 0.154, p<0.001), with specificity of 87% and sensitivity of 15%.

Chi squared test of the psychogenic movement disorders group versus healthy and organic moving disorders groups under the same classification yielded p=0.0499. The Fisher’s exact test trended toward significance with p=0.081 for a comparison of the three groups classified as absent (0) versus present (1 or 2).

REFERENCES