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Case Report

Post-traumatic stress disorder presenting as Central Serous Chorioretinopathy

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Abstract

Central serous chorioretinopathy (CSC), characterized by localized neurosensory retinal detachment or retinal pigment epithelial detachment, is found to be more frequent in patients susceptible to psychological stress. Posttraumatic stress disorder (PTSD) is a mental disorder that may develop after exposure to exceptionally threatening or horrifying events. We report a case where two patients who had suffered a road traffic accident (RTA), while travelling in same vehicle which lead to death of their third co-passenger, presented to us with diminution of vision after 2 weeks and 1 month of trauma respectively. Fundus examination and OCT examination revealed CSC in both patients. On psychiatric evaluation, both patients were found to be suffering from PTSD. Both of these patients developed CSC after severe distress caused by the experience of undergoing a life threatening event. These patients presented with CSC and were later found to be suffering from PTSD. Based on these findings, we recommend that while evaluating patients of CSC after trauma, psychiatric evaluation for PTSD should be considered.

Keywords: Central serous chorioretinopathy, Posttraumatic stress disorder

Case Report

Central serous chorioretinopathy (CSC) is characterized by localized neurosensory retinal detachment or retinal pigment epithelial (RPE) detachment.[3] CSC is found to be more frequent in patients susceptible to psychological stress.[4] Posttraumatic stress disorder (PTSD) is a mental disorder that may develop after exposure to exceptionally threatening or horrifying events[1] which can lead to development of severe mental distress. Post-traumatic stress has been recognised as a factor for development of central serous chorioretinopathy after ocular trauma.[5]

One male patient aged 25 years and one female patient aged 24 years, who had a history of road traffic accident (RTA) presented to our outpatient department with diminution of vision. Both of these patients were travelling in same vehicle when accident occurred and their third co-passenger died on the spot. First patient had painless, diminution of vision and metamorphopsia in right eye after 2 weeks of trauma. Visual acuity was 6/18 in R/E

and 6/5 in L/E. With +1 D correction, visual acuity in R/E improved to 6/9. Second patient had also painless, diminution of vision and micropsia in left eye after 1month of trauma. Visual acuity was 6/5 in R/E and 6/12 in L/E. With +0.75 D correction, visual acuity in L/E improved to 6/6p. There was no significant history of past illness or family history and no significant history of drug or steroids intake in both patients. After trauma, both patients had minor nonsurgical injuries on extremities which were treated conservatively.

Both patients were anxious, irritable and mentally distressed. Rest general physical examination was unremarkable in both patients. Anterior segment was within normal limit in both patients. Fundus examination with +78D lens revealed focal, well demarcated elevation of neurosensory retina in the macular area in both patients suggestive of central serous chorioretinopathy (CSC). In the first patient, oval yellow-gray elevation was present beneath the detachment in superonasal part of fovea and reaching upto subfoveal region suggestive of retinal pigment epithelial detachment (RPED). This clinical impression was confirmed with optical coherence tomography (OCT) which revealed focal, submacular, serous detachment of neurosensory retina in both patients suggestive of CSC. In the first patient OCT also demonstrated a dome shaped elevation of retinal pigment epithelium beneath area of neurosensory retinal detachment suggestive of RPED (Figures 1 and 2). Radiological imaging of head and neck done at time of RTA was also normal in both patients.

On psychiatric evaluation, first patient had recurrent flashbacks and bad dreams of accident and was not able to sleep properly. He started avoiding driving. He felt tense, had negative thoughts about world and was not able to concentrate on his work. These symptoms started within 2 weeks after trauma and were present for more than one month. Second patient also had recurrent flashbacks and bad dreams of accident and was not able to sleep properly. She started avoiding travelling in car and became irritable with sudden outbursts of anger. These symptoms started within 20 days after trauma and were present for more than one month. In both patients, these symptoms were not present before RTA.

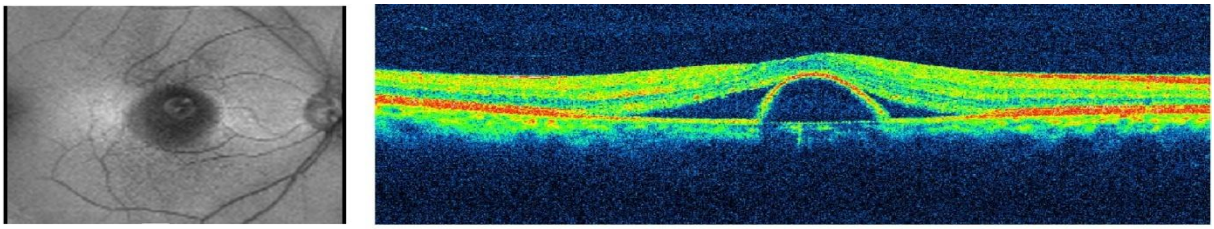

Figure 1: Fundus and OCT image of first patient depicting localised neurosensory retinal detachment with retinal pigment epithelial detachment.

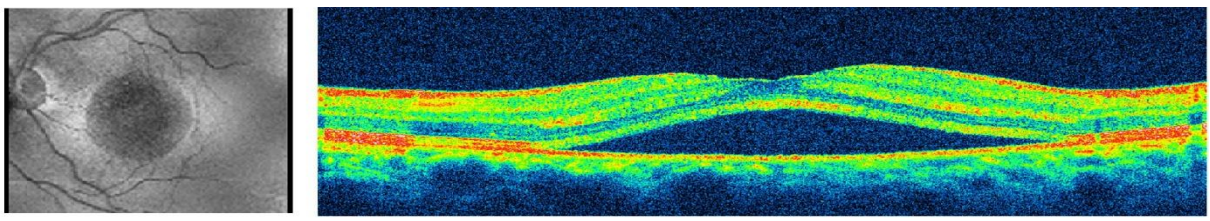

Figure 2: Fundus and OCT image of second patient showing localised neurosensory retinal detachment.

Based on these findings, PTSD was diagnosed in both patients. Psychotherapy and cognitive behavioral therapy was started in both patients.

Discussion

CSC is characterized by the accumulation of transparent fluid at the posterior pole leading to development of neurosensory retinal detachment or RPED retinal pigment epithelial (RPE) detachment.[3] The pathophysiology of CSC is still not completely understood. It was originally thought to be a disorder of the RPE; however, it is now widely accepted that the disease originates from choroidal hyperperfusion.[7,8] The pathophysiology of choroidal hyperperfusion in CSC remains unknown. Choroidal vessels have been suggested to be under the control of the autonomic nervous system; therefore, systemic factors may influence choroidal hyperperfusion. CSC is found to be more frequent among individuals with type A personality who were more susceptible to psychological stress.[10] Gelber GS. et al had found that a very disturbing psychological event had preceded the loss of vision due to CSC.[4]

PTSD is a mental disorder that may develop after exposure to exceptionally threatening or horrifying events, such as sexual assault, warfare, traffic collisions, or other threats on a person's life. PTSD can occur after a single traumatic event or from prolonged exposure to trauma, such as sexual abuse in childhood. Diagnosis is based on the presence of specific symptoms following a traumatic event.[1]

The diagnostic criteria for PTSD, stipulated in the International Statistical Classification of Diseases and Related Health Problems 10 (ICD-10)[2], are:

A. Exposure to a stressful event or situation (either short or long lasting) of exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in almost anyone.

B. Persistent remembering, or "reliving" the stressor by intrusive flash backs, vivid memories, recurring dreams, or by experiencing distress when exposed to circumstances resembling or associated with the stressor.

C. Actual or preferred avoidance of circumstances resembling or associated with the stressor (not present before exposure to the stressor).

D. Either (1) or (2):

(1) Inability to recall, either partially or completely, some important aspects of the period of exposure to the stressor.

(2) Persistent symptoms of increased psychological sensitivity and arousal (not present before exposure to the stressor) shown by any two of the following: difficulty in falling or staying asleep, irritability or outbursts of anger, difficulty in concentrating, hyper-vigilance or exaggerated startle response.

Post-traumatic stress had been recognised as a factor for development of central serous chorioretinopathy, since it is leads to excessive release of catecholamines and increased endogenous cortisol levels.[5] Several studies have demonstrated development of CSC after blunt trauma in the same eye or fellow eye.[5,6,9,11] Our index cases were unique in many ways. Firstly, CSC developed after severe distress caused by the experience of undergoing a life threatening event, which led to development of PTSD in both patients. To the best of our knowledge, CSC had never been reported in patients of PTSD. Secondly, our cases presented with CSC and were later found to have PTSD on psychiatric evaluation. Hence, CSC can be a presenting symptom of PTSD and while evaluating patients of CSC after trauma, psychiatric evaluation for PTSD should be considered.

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