

## Case Report

# Obsessive- compulsive disorder due to traumatic brain injury: report of 3 cases

Maryam Rezapour (M.D)<sup>1</sup>, Babak Massoum (M.D)<sup>2</sup>  
Elham Banimostafavi (M.D)<sup>3</sup>, Seyyed Hamzeh Hosseini (M.D)\*<sup>4</sup>

<sup>1</sup>Assistant Professor of Psychiatry, Psychiatry and Behavioral Science Research Center, Mazandaran University of Medical Sciences, Sari, Iran. <sup>2</sup>Fellowship of Psychosomatic Medicine, Psychiatry and Behavioral Science Research Center, Mazandaran University of Medical Sciences, Sari, Iran. <sup>3</sup>Assistant Professor, Radiologist, Imam Hospital, Mazandaran University of Medical Sciences, Sari, Iran. <sup>4</sup>Professor, Psychiatrist, Imam Hospital, Mazandaran University of Medical Sciences, Sari, Iran.

---

## Abstract

Obsessive-compulsive disorder is manifested by a group of symptoms including intrusive thoughts, rituals, mental obsessions and compulsions which creates great distress for the individual. Traumatic brain injury known as one of the rare reasons of obsessive-compulsive disorder. This report is about 3 patients that suffer from obsessive-compulsive disorder after a traumatic brain injury and loss of consciousness. All 3 patients had no sign of obsessive-compulsive disorder before the trauma. Information on these reports, examine the relationship between obsessive-compulsive disorder and traumatic brain injury. Findings from the neuroimaging methods for these patients have been reported. In this study, all the reported cases that had sever traumatic brain injuries were assessed by neuroimaging methods and brain injuries were observed in the right temporal in first case, in the right temporal and both frontal sides in second case, in the splenium corpus callosum and the right brain tegmentums and diffused axonal injury and extra-axial hematoma in the left temporal lobe in the third patient. Based on the findings of this study obsessive-compulsive disorder can rarely be developed after a traumatic brain injury and by assessing the neuroimaging findings, we can conclude that there is a relationship between the brain injuries and the symptoms of obsessive-compulsive.

**Keywords:** Head trauma, Obsessive-compulsive disorder, Neuroimaging findings

---

\* **Corresponding Author:** Hosseini SH (M.D), E-mail: [hosseinish20@gmail.com](mailto:hosseinish20@gmail.com)

Received 29 Jan 2017

Revised 9 May 2017

Accepted 6 Jun 2017

Maryam Rezapour (<https://orcid.org/0000-0003-4478-9130>), Seyyed Hamzeh Hosseini (<https://orcid.org/0000-0002-0987-4295>)