

An Atypical Presentation of Post-Traumatic Stress Disorder Following a Traumatic Brain Injury: A Case Report

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Abstract

Posttraumatic stress disorder can be an incredibly perplexing condition to treat. A patient suffering from this condition can have additional complications when a traumatic brain injury is superimposed on it. When derangements of numerous systems have occurred requiring the integration of numerous specialties in the patient care, the situation begins to take the form of a very novel clinical case. We presented a case of a man in his 40s who was originally suffering from PTSD that then had a traumatic brain injury resulting in numerous complaints. After mood, endocrine, neurologic, and musculoskeletal complaints arose, questions about what was the underlying etiology of each issue began to be raised.

Kew Words: major depressive disorder; ptsd, tbi; atypical depression; ssri; lexapro; motor vehicle accident; neuroendocrinology

Introduction

Posttraumatic stress disorder (PTSD) is a prevalent and complex psychiatric condition that arises in response to exposure to traumatic events [1]. PTSD has been acknowledged as having an individualized nature and an immense variability in symptom manifestation [1]. PTSD can result in chronic disability and lead to an increased risk of suicide [1]. The medications fluoxetine, venlafaxine, and paroxetine have shown the best benefit as monotherapy in treatment of PTSD [2]. Selective serotonin reuptake inhibitors (SSRI) and selective norepinephrine reuptake inhibitors (SNRI) are advantageous for the treatment of PTSD as they have relatively favorable side effect profiles [2]. However, these treatments have significant limitations given that there is potentially 33% of people in the general population who have PTSD that are resistant to treatment [3]. Astonishingly, the non-response rates for cognitive behavioral therapy may be as high as 50% and for selective serotonin reuptake inhibitors about 20-40% [3].

Interestingly, another study assessed the effectiveness of osteopathic manipulation in the treatment of PTSD, and a significant improvement was observed [3]. This all necessitates the further analysis and expansion of cases of PTSD and how patients were treated in order to pinpoint better treatment strategies. With significant variability in symptom manifestation, care must be taken to do this for each and every single case in order to further our current understanding of PTSD and its treatment.

This article will present the unique case of a patient with PTSD who had persistent depression that was further complicated by numerous endocrine abnormalities.

Case Presentation:

The patient was a 40-year-old male with the diagnosis of PTSD. He developed PTSD after witnessing his dad almost beat another person to death with a satellite antenna when he was a kid (Figure 1). He was performing his routine responsibilities as a trucker and was laying over at a truck stop. He was sleeping in his truck while, all of a sudden, another truck reversed right into him. He immediately suffered a whiplash injury to his neck that resulted in him needing to have metal placed in his neck. He ended up being diagnosed with a traumatic brain injury.

Thereafter, he began to experience numerous mood complaints such as decreased energy, irritability, depression, and anxiety. Further imaging indicated that he had an intracranial shift that resulted in the cerebellar tonsils being displaced inferiorly. It was suspected that this might have impacted his ventricular drainage system. On subsequent neuropsychiatric evaluation he was found to be disinhibited and there was an increased suspicion that he had a frontal lobe injury. His mood seemed to deteriorate over the next year, and an endocrine derangement was suspected. He was referred from his neurologist to a neuro-endocrinologist that discovered that he had a significant endocrine deficiency. He was found to have clinical hypopituitarism which was attributed to cortical damage that was incurred by his traumatic brain injury. He also was diagnosed with Hashimoto's thyroiditis. The neuro-endocrinologist began hormone replacement therapy which included levothyroxine and testosterone. The patient reported improvements in his symptoms, however that accounted for only major outbursts only, and he still did not feel the same since his accident.

In a follow-up neuropsychiatric consult, he received the diagnosis of intermittent explosive disorder due to his significant behavioral changes. The patient also suffered from chronic pain and was on tizanidine, a muscle

relaxer for his persistent neck pain. He was no longer able to drive following the incident. He also needed all of his teeth implanted following his accident. Two years after his incident, he was seen by a different psychiatrist for his medication management. He reported that he had a disagreement with his neighbor over a noise complaint. The patient then confronted his neighbor and an altercation almost occurred. The neighbor was cooking food on a barbecue grill and used a knife to point in the direction of the patients. The

patient reminded the neighbor that he carried a concealed firearm which he would not hesitate to use. The incident was reported to the patient's housing association, and he was provided advice on how he could better handle his grievances. Ultimately, he was started on Lexapro for his symptoms of anxiety and depression. Figure 1: showcases the self-report checklist for PTSD made by the National Center for PTSD (5).

PCL-5

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Keeping your worst event in mind, please read each problem carefully and then select one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

Your worst event: _____

In the past month, how much were you bothered by:	Not at all	A little bit	Moderately	Quite a bit	Extremely
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
2. Repeated, disturbing dreams of the stressful experience?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
4. Feeling very upset when something reminded you of the stressful experience?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
8. Trouble remembering important parts of the stressful experience?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
12. Loss of interest in activities that you used to enjoy?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
13. Feeling distant or cut off from other people?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
15. Irritable behavior, angry outbursts, or acting aggressively?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
16. Taking too many risks or doing things that could cause you harm?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
17. Being "superalert" or watchful or on guard?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
18. Feeling jumpy or easily startled?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
19. Having difficulty concentrating?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>
20. Trouble falling or staying asleep?	0 <input type="radio"/>	1 <input type="radio"/>	2 <input type="radio"/>	3 <input type="radio"/>	4 <input type="radio"/>

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Figure 1: PTSD Diagnostic Checklist

Discussion:

The patient's psychiatric complaints seem to be due to a significant neurocognitive deficit that resulted from his traumatic brain injury. He likely had ongoing irritability, anxiety, and depression that was further complicated by this traumatic insult. It is also unclear whether or not the PTSD that he already had could have had a synergistic effect in his significant cognitive decline. His worsening of symptoms was likely explained by an injury to the frontal lobe which was consistent by the neuropsychiatric assessments and his subsequent disinhibition. The panhypopituitarism that was noted afterwards was likely a result of further neurologic dysfunction impairing endocrine signaling. While hypogonadotropic hypogonadism is not a well-established symptom of a traumatic brain injury, the clear temporal association with his onset of symptoms and this motor vehicle accident seems suspicious for having causation. Therapeutic intervention was aimed at decreasing the likelihood of suicidality and agitation. There seemed to be significant limitations in medicine with treatments that would greatly improve the patient's condition, such that he could return to his baseline neurocognitive status that he had prior to his injury.

A patient with PTSD can be incredibly challenging for a doctor to treat. We still have so much more to learn about the impact that PTSD can have on a person and what physiological consequences a person with PTSD has sustained. This can be further complicated by a traumatic brain injury. There are many types of traumatic brain injuries with a plethora of clinical presentations. In this case, the patient presented with significant endocrine abnormalities likely secondary to his traumatic brain injury. It is imperative that further research be done to fully explore the wide array of bodily systems that could be potentially affected by a traumatic brain injury. How a traumatic brain injury could interact with a pre-existing diagnosis of PTSD must also be investigated. Treatment protocols and standards of care must be developed in conjunction with findings to ensure the best treatment.

Statement of Informed Consent:

Informed consent was obtained from the patient that was presented in the case report.

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Conclusion:

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