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MANIA INDUCED NON-ORGANIC URINARY INCONTINENCE: A CASE REPORT

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INTRODUCTION

Bipolar disorder (BD) is one of the most frequent mental disorders worldwide characterized by cyclic mood episodes of mania or hypomania and depression (Kupfer 2005, Merikangas 2007).

In addition to the high medical burden of BD, it can co-occur with different medical comorbidities across all organ systems which must be under consideration due to their remarkable impact on the life quality of the patients (Fenn 2005, McIntyre 2007, Forty 2014). Even though not mandatory for diagnosis (American Psychiatric Association 2013), somatic symptoms are frequent among these patients (Edgcomb 2016). Generally somatic symptoms point to discomforting experiences related to basic bodily sensations. Those may be painful or not and cannot be explained by defined medical diseases (Kapfhammer 2006). Asthenia, tension, headache and palpitations are the most frequent symptoms reported fallowed by dizziness, tremor, loss of appetite, bone joint pain, sweating, drowsiness, constipation, dyspepsia, temporary pains, hot flashes, dyspnea, aerophagia and abdominal pain (Perugi 2011).

Urinary incontinence (UI) is one co-morbid medical syndrome found in patients with BD. In one study 2.7% of 330 bipolar patients experience urinary incontinence during lifetime (Fenn 2005). While in notable percent of patients with UI, no structural defects could be found as a rational reason, organic causes such as urologic or neurologic defects are at the top of the etiologic causes of UI (Shamliyan 2007, Maeda 2009). So it is generally accepted that when bipolar (and other psychiatric) patients have urinary incontinence, they should be evaluated for secondary etiologies even at emergent psychiatric breakdowns.

Herein we describe two bipolar patients who experienced UI only in their manic episodes, and just after treating their mania, they become continent.

CASE PRESENTATION

Case 1

The patient, a 57-year-old Iranian woman referred to the psychiatric clinic. She was a known case of bipolar disorder from 1990. She had six admissions because of mixed mania-depression episodes. All recurrences were following discontinuation of her medication. She received electroconvulsive therapy (ECT) in all previous admissions. The main manic manifestations in the fifth episode were violence, anxiety, fearfulness, insomnia, agitation, increased libido, low personal hygiene, and delusional belief that her belongings had been stolen by thieves. In the fifth admission, the patient complained of urinary incontinence besides maniac presentations. She underwent different medical workups for incontinence. The only positive note was the brain CT-scan which reported frontal lobe atrophy. She had no significant history of medical or surgical disease except that was mentioned in psychiatric history. Her drug and habitual history were also negative. As the previous time, treating the bipolar disorder, the patient needed receiving ECT. After receiving six times of ECT, in addition to resolve her mood signs, the incontinence also became healed.

She readmitted to the psychiatric ward (sixth episode) a few weeks after she had discontinued her medication prescribed for her mania and again she had urinary and fecal incontinence. This time, after receiving five sessions of ECT her incontinence resolved but her mood signs just resolved after receiving the 11 sessions of ECT.

Case 2

A 28-year-old Iranian man came to the psychiatric clinic for consultation about his medications. At the time of consultation, he was symptom-free. According to his report, the illness has been started from seven years ago. At that time he experienced an episode of major depressive disorder which had resolved spontaneously after a couple of weeks. After six months he experienced a manic episode and admitted to the psychiatric ward. He had urinary incontinence in addition to his manic signs and symptoms. The primary workup included complete lab test, urine culture, and also brain CT-scan were negative. The mania and UI resolved After the patient received ETC.

After that, the patient experienced three episodes of mania with intervals of 9 to 12 months. Each episode of mania, he had urinary incontinence concomitant with mood symptoms. By controlling the mania, his incontinence resolved, and he didn't have any urinary symptoms between manic episodes.

DISCUSSION

New-onset incontinence in a psychiatric patient, firstly evokes structural or organic impairments such as urological or neurological deficits due to their high prevalence (Hunskaar 2000). After excluding organic-based impairments, we should consider pharmacological side effects as the leading cause of urinary incontinence. Many psychiatric medications such as antidepressants and antipsychotics have been reported as the cause of urinary incontinence (Thor 2007, Duran 2013, Kumari 2016). Votolato et al. reported some cases developed UI following taking serotonergic antidepressants (Votolato 2000). Saddichha et al, presented a case of bipolar disorder who had urinary difficulties with any typical and atypical antipsychotic drugs except aripirazole (Saddichha 2009).

It is clear that in the case of the patients presented in this article, neither organic causes nor medication adverse effects were the reason for their urinary incontinence. Since organic causes were excluded by lab tests and neurologic assessments, and they were drug naïve at the time of manic state and that was the cause of their relapses. Also, the patients were incontinent when they had been in manic episodes each time, and after controlling the mania, they became continent. So, if there had been any organic causes for their incontinence, resolving the mania wouldn't have followed urinary incontinence.

Newly published papers investigate the association between depression and urinary incontinence. Melville et al, in a cohort of 5,820 women for 6 years showed that major depression anticipates the incidence of incontinence while incontinence can not previse incidence of depression (Melville 2009).

Vasudev et al, presented a case of depression who developed urinary and fecal incontinence without any organic cause, and just after controlling depression, incontinence has been resolved (Vasudev 2010). Similarly, Shiwach et al, described an MDD case with dual incontinence whose symptoms settled just after receiving ECT (Shiwach 2000). Steers et al, proposed the theory of association between depression and UI, there may be a common neurochemical pathogenesis such as depletion in neuroamines (Steers 2001). Up to our information, there are no reports (if we didn't miss none) about patients have incontinence merely during mania.

The neural centers responsible for micturition are organized into complex formation into CNS, and they are interconnected in such a complex manner so that most of its aspect has remained unclear until now (Malykhina 2017). The prefrontal cortex is one of the greatest centers of micturition and continence (Perneczky 2008). It has direct and indirect connections with other urination centers such as periaqueductal grey (PAG), anterior cingulate gyrus, and hypothalamus. It is responsible for the suppression of voiding and at a suitable place and time it becomes relaxed, allows voiding (Fowler 2008). A study by Tadic et al, showed the ventromedial prefrontal cortex is highly active during micturition and less during retaining (Tadic 2010). So there is no doubt the prefrontal cortex has a key role in urination and continence (Perneczky 2008, Malykhina 2017). On the other hand electroencephalography (EEG) findings in bipolar patients show hyperarousal of the brain cortex during mania (Hegerl 2009). Jogia et al, showed that in the manic state the prefrontal cortex dysfunction could be the core abnormality (Jogia 2011). More precise studies by functional magnetic resonance imaging (fMRI) demonstrate that there is obviously a dysregulation in prefrontal cortex function in manic patients compared to normal ones (Clark 2008). Strakowski et al, also described that in type one bipolar patients, prefrontal cortex function changes noticeably (Strakowski 2012). Altogether based on these evidences we deduce the prefrontal cortex has an undeniable role in relaying the neural signals in respect of micturition and continence. Also, we can see noticeable changes and dysregulation of the prefrontal cortex function in manic patients. From these, we wish to conclude that in manic patients with urinary incontinence, when we can not find any organic or pharmacologic etiology, mania itself can be the reason of incontinence.

As mentioned earlier, in most psychiatric patients (including bipolar ones) it is rational to strongly consider an underlying or co-morbid medical illness when urinary incontinence appears along with psychiatric presentations. But it could be kept in mind that this unwritten rule would be violated by exceptions that may not be uncommon. From the clinical point of view, when a manic patient becomes incontinent, if the results of appropriate medical assessments are negative, the mania itself can be considered as the leading cause of incontinence. In such situations amelioration of manic state spontaneously leads to return the ability of continence to patients.

SUGGESTION FOR FURTHER STUDIES

We know that jumping to a scientific conclusion in this subject could not be argumentative, especially when clinical experience shows that more bipolar patients in the manic state are not urinary incontinent. So observing more patients in similar states in addition to functional brain studies is essential to reach accurate clinical facts.

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Study conception and design, editing the first draft of the manuscript, helping in material preparation and data collection done by Seyed Mehdi Samimi Ardestani.

The first draft of the manuscript was written by Hamed Ebrahimibagha and all authors commented on previous versions of the manuscript.

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