

CLOZAPINE- INDUCED SWEATING: A CASE REPORT


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ABSTRACT: Clozapine an atypical antipsychotic has been widely used as the drug of choice for treatment resistant psychosis proving the most effective psychotropic. This case reports a patient who was diagnosed with major depression with severe psychotic features, who showed improvement on Clozapine. Although patient became better on Clozapine she developed severe sweating which was treated with Biperiden.

Key words: Sweating, Clozapine, Biperidine

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CASE PRESENTATION

54 year old single, African American female with long past psychiatry history of major depression with severe psychotic features was admitted to Brookdale Hospital, for paranoid behavior and suicidal ideations. During the interview, patient admitted that people were talking about her and that they had been monitoring her on the outside. She stated: "female neighbor is out to get me" and that she needs to defend herself and her family. Patient admitted to homicidal ideations towards this neighbor. Additionally, patient also reported feeling increasingly depressed, hopeless, had not been sleeping or eating, with weight loss, and had chronic thoughts on/off to kill herself. She denied any audiovisual hallucinations. No history of any substances or alcohol abuse, her urinary toxicology screen was negative and alcohol level was negative.

In terms of her background, Patient grew up in NY, had dropped out of high school, 9th grade, and was physically/sexually abused as a child. Her work history included working as a Home Health Care Aid for several years and currently was unemployed. Patient had a history of chronic depression as a young woman, but had never been treated as an outpatient. Patient's first hospitalization occurred at Brookdale in August 2014 for paranoid behavior and suicidal ideations. Where patient took a screwdriver and slowly pressed it against her chest to kill herself causing a 2.5cm circular ulceration. At that time, patient was also hearing voices. Patient subsequently had a second hospitalization followed an overdose of medications and psychosis. Patient was diagnosed with, depression with psychotic features and treated with Risperdal, Abilify, Wellbutrin, Haldol, Lexapro and Mirtazapine.

However, patient had been non-compliant with her psychotropic medications and outpatient psychiatric follow up appointments. Family psych. history included grandmother and aunt with mental illness. Patient's family history also included patient's aunt who committed suicide by running in front of a truck. Past medical history included HTN for which she took Enalapril 10 mg daily.

During this admission patient was initially started on Risperdal 2 mg twice a day, Klonopin 1 mg at night and Lexapro 10 mg daily. After two weeks patient's depression mildly improved however, she was still paranoid and believed that 50 people are out to kill her and was still not sleeping well.

Therefore, risperidone was discontinued and we started her on Zyprexa 15 mg at bed time, since this is also more sedating. Additionally, patient was tapered off Klonopin and Trazadone 50 mg at bed time was added to help her sleep better. At third week there was no change in her psychosis and had continued to express homicidal ideations towards her neighbor, hence Zyprexa was increased to 25 mg at bed time.

Over the next few weeks patient became less depressed and slept well and ate better. But became increasingly paranoid stated that her neighbor is still out to kill her and her family, and that she had to defend her family by killing the neighbor. Patient was educated that her thoughts about her neighbor are part of her illnesses and that nobody is out to harm her. However patient's insight remained poor?

Considering patient had been on different antipsychotics in the past with no improvement in her paranoia, we decided to begin her on Clozapine 25 mg. Clozapine was titrated up to 250 mg over two weeks as per the following titration schedule: 25, 50, 75, 100, 125, 175, 200, 225, and 250. Patient appeared to be doing well on Clozapine 250 mg per day, her mood was better, was not depressed, and had started to show some insight into her paranoia. Although patient was psychiatrically better, she complained of severe sweating all over her body throughout the day.

DISCUSSION

Initially, we ruled out serious conditions such as, MI as a cause of her sweating. But, patient denied any chest pain, EKG was normal and cardiac troponins were also within normal limits. Secondly, orthostatic hypotension was ruled out on a daily basis. There were no signs and symptoms of thyroid abnormalities or hypoglycemia; TSH, Free T4 and T3 and blood glucose were all normal. And lastly, patient had attained menopause 5 years ago, and therefore this differential was also ruled out.

Furthermore, patient's concurrent medication besides Clozapine was Enalapril 10 mg daily for HTN. Enalapril is a vasodilator known as an ACE inhibitor that blocks the enzyme that cleaves angiotensin I to form the potent vasoconstrictor, angiotensin II. By reducing angiotensin II levels, ACE inhibitors also decrease the secretion of aldosterone, resulting in decreased sodium and water retention (Richard A Harvey and Pamela C Champe 1997). Patient had been on Enalapril for the past several years and had never experienced sweating before. Thus, it was less likely that Enalapril caused diaphoresis. Eventually, after considering and ruling out all the differentials we narrowed Clozapine as a reason for her severe sweating. Patient was initiated on Biperidine 1 mg twice a day to help her reduce sweating. Interestingly, patient's sweating gradually reduced after 1 week and got completely subsided after two weeks of Biperidine treatment.

Clozapine binds loosely and transiently to dopamine D2 receptors.

Clozapine also interacts at histamine H1, acetylcholine muscarinic M1 and serotonin 5-HT2A, 5-HT2C, 5-HT6, and 5-HT7 receptors, and at alpha-1-adrenoceptors (GPCS-2015). M1 and M3 receptor is commonly found in the exocrine glands producing sweat (Caulifield MP 1993). Moreover, Biperidine is selective for M1 receptor (Bolden C et al, 1992) which proves why Biperidine is the drug of choice in eliminating sweating. According to Lexicomp online database there is 6% chance of sweating in patients who are on Clozapine (Lexicomp Online Database [Clozapine] 2015). After extensive literature search on PubMed we found sweating to be a rare reported side effect. And therefore, decided to share this case report highlighting Clozapine induced sweating and its treatment management.

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