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A Case Report of Steroid Induced Psychosis in a Female patient with Systemic Lupus Erythematous

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Abstract

SLE is a chronic autoimmune disease that is idiopathic and can affect and organ of the body. It may present with numerous neuropsychiatric manifestations such as cognitive dysfunction, organic brain syndromes, delirium, seizures, headache, psychosis etc. Relatively, psychosis is an uncommon neuropsychiatric manifestation. Psychosis can be due secondarily to long term, high hose glucocorticoids and due to lupus cerebritis. Steroids can cause a spectrum of psychiatric symptoms inclusive of mania, psychosis, anxiety and depression. On initial clinical examination it may be difficult for a clinician to determine the cause of psychosis as due to steroids or lupus cerebritis, especially since no single laboratory test is available presently to definitively confirm a diagnosis of lupus cerebritis.

Keywords: Systemic Lupus Erythematosus; Steroids; Psychosis; DSM-V

Introduction

Corticosteroid-induced psychosis is a well-documented but in clinical practice, an uncommon disorder that is classified under the subsection of substance or medication-induced psychosis in DSM-V. It is a dose dependent disorder that is also more prevalent in patients with certain conditions eg. Systemic Lupus Erythematosus that require long term steroid use. This disorder might be possibly under reported because it is difficult to differentiate initially from lupus cerebritis, psychotic symptoms can be quite mild enough to not raise clinical suspicion and also it can be a short psychotic episode that resolves without any intervention.

Case presentation

A 44 year old female patient presented to the Eric Williams Medical Sciences Complex (EWMSC), Trinidad and Tobago, West Indies due 5 days of coughing and stranger behavior at home as reported by her family. She was combative and aggressive to medical staff. On detailed evaluation her various physical examinations and standard laboratory investigations were unremarkable. She was initially thought to have a neuropsychiatric lupus flare but eventually required a Psychiatry referral after many organic possible explanations were ruled out. During her interview she reported delusions of grandiosity, persecution, and ideas of reference. She had many perceptual disturbances, these included visual, auditory, tactile, and olfactory hallucinations.

On mental status examination she had increased psychomotor agitation coupled with normal volume, tone and speed of speech and articulation. Her thought process was disinhibited with a normal rate of flow of ideas and rate of production of ideas. She was irrational, illogical, but eventually gave relevant information and was goal-directed when re-directed. There was circumstantiality, tangentially, loosening of associations. She had poor insight into her condition along with poor judgement. Her cognition was also quite poor. Her medications included Prednisolone and Azathioprine which she reported she was taking for years for systemic lupus erythematosus and that she was also complaint.

Discussion

Drug induced psychosis represents a spectrum of manifestations that can occur during any time of treatment. Mild symptoms include agitation, anxiety, irritability, insomnia. Severe symptoms include mania, psychosis and depression. Steroid induced psychosis is thought to be dose dependent, more likely to occur in patients on long term steroid therapy and in patients on medications that are likely to augment the effects of steroids. A study reviewed 79 cases of steroid-induced psychosis and found that disturbances in reality testing were reported in 71% of the 79 cases, but only 14% had a psychotic disorder without evidence of significant mood changes or features of a delirium. They found that depression was present in 40.5%, mania in 28%, a mixed state in 7.5%, and delirium in 10% of these cases. Because of the mild, non-specific symptoms it is possible that steroid induced psychosis.

In a patient receiving long term steroid therapy for management of Systemic Lupus Erythematosus, the diagnosis becomes more complicating. This is because a well described manifestation of lupus cerebritis includes neuropsychiatric symptoms such as psychosis. This can make differentiation a

neuropsychiatric flare from steroid induced psychosis difficult on initial presentation.

The pathophysiology of this disorder remains incompletely understood. Steroid induced psychosis is generally thought to be due to abnormalities in the hypothalamo-pituitary-adrenal axis similar to organic causes of abnormalities such as Cushing's or Addison's. Disturbances in the cortisol including both excess and inadequate serum levels are known to cause psychiatric symptoms. Exogenously administered steroids leads to suppression of steroid secretion via the adrenal glands and its eventual atrophy. The imbalance between glucocorticoid and mineralocorticoid receptor stimulation, of which exogenous glucocorticoids have a preference for glucocorticoid receptors, can lead to cognitive impairment and psychiatric disturbances such as psychosis.

Since this disorder is dose dependent, high dose steroids are a primary risk factor for developing steroid induced psychosis. Patients taking 40mg and over of prednisone or other glucocorticoids have been shown to have a sharp increase in steroid induced psychosis. Steroid dosage, however has not been statistically correlated with onset, severity or duration of psychiatric symptoms. It is more prevalent in women than in men and a history of previous unrelated psychiatric disorders or corticosteroid induced psychosis is not a predictor of future episodes.

High dose steroids are a primary risk factor for developing steroid induced psychosis, especially among patients taking 40 mg of prednisone daily. Corticosteroid dosage, however, has not been correlated with onset, severity, type of reaction, or duration of psychiatric symptoms. Corticosteroid-induced psychosis is more common in women than in men. A history of psychiatric disorders or previous corticosteroid-induced psychosis is not predictive of future episodes.

It must be noted that psychosis is not the only known neuropsychiatric effect of steroid use. To complicate the initial presentation further, steroids are known to cause depressive symptoms, which is quite opposite to the spectrum of psychosis. In a retrospective analysis involving 372,696 patients in general practices in the United Kingdom, there was a five- to sevenfold increased risk of completed or attempted suicide among patients receiving glucocorticoids, compared with patients with the same diagnoses who were not receiving such medications.

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