Frontiers in Medical Case Reports, ISSN: 2582-8142

Psychosis Induced by Isotretinoin: In an Adolescent Case

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Received: 23 June 2020; **Accepted:** 07 July 2020

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ABSTRACT

Acne vulgaris is common disease in adolescents. One of the drugs in the treatment algorithm is oral isotretinoin. Previously, psychotic conditions related to the use of oral isotretinoin have been reported in adults. A 16-year-old girl who presented with marked psychotic symptoms and completely recovered shortly after isotretinoin treatment was discontinued. Psychiatric symptoms may develop during isotretinoin treatment and should be considered in the planning of treatment and follow-up.

Keywords: *Acne Vulgaris, Isotretinoin, Psychosis*

Introduction

In a review article on RA and affective disorders, published in 2012, Bremner *et al*., reported there was a relationship between RA and depression. In 2005, FDA established black box warnings for suicide, aggression, depression and psychosis.

Lithium is frequently used in bipolar patients and may cause acne resistant to conventional treatment. In acne treatment with RA, there may be side effects in terms of worsening mood symptoms and suicidal thoughts in patients with bipolar disorder. In a review published in 2010 (Schaffer *et al*., 2010), it is reported that 10 out of 300 bipolar disorder patients received isotretinoin treatment and 9 had a significant worsening of the symptoms. Suicidal thoughts developed in 3 of the patients. After discontinuation of isotretinoin treatment, relapsed mood symptoms improved in all patients apart from one.

Ludot *et al*. (2015) stated that there is a strong relationship between RA and depression, also there is a possibility of worsening the bipolar disorder, and that there could be a possible connection with psychosis. They noted that it is important to monitor patients for neuropsychiatric side effects, for example; a headache could be a warning symptom. OCD cases have also been reported to have

developed after the treatment of RA (Fornaro, 2010).

Additionally, there are also data showing that RA treatment may have an antidepressant effect with acne-treating effects. In a study, in which moderate to severe acne patients were divided into RA and control groups, it was shown that there was no difference in psychological test scores between depression and anxiety (Simić *et al*., 2009). In another study, significant improvement in depression and anxiety symptoms of patients were observed as a result of drug treatment of moderate to severe acne in the patients. In addition, it has been described that RA has a particularly high teratogenic effect on CNS and can cause prosencephaly and hydrocephalus (Kontaxakis *et al*., 2009).

In this case report, we described RA induced acute psychotic symptoms in a 16-year old girl.

Case Report

A16-year old girl was admitted to outpatient unit due to disorganized speech and behaviour. This was the first psychiatric application of the patient. Their parents reported that their child had been talking differently for one week and her behavior was strange. She did not want to sleep, loss of interest in activities, withdrawing socially, decline in self-care, appetite diminished, did not participate in daily work, and she was nervous. She refused to interview because of her anegative attitudes, her affect was blunt, mood was irritable, her speech and behaviour was disorganized, thinking was confused.

On admission, her physical examination revealed no abnormalities and a detailed neurological examination proved to be negative. There was no double vision, stiff neck headache, etc. to suppose pseudotumor cerebri. No abnormal findings were found in laboratory tests. CT brain, EEG and ECG were evaluated as normal. She has no previous history of chronic illness and no psychiatric symptoms and family histories of psychiatric disorders.

She was previously prescribed with isotretinoin 20 mg for acne vulgaris 3 months ago and the dose was increased to 40 mg daily two months later. Psychiatric signs started 2 weeks after dose adjustment.

There were no premorbid features (social withdrawal, disruptive behavior disorder, academic difficulties, speech and language problems, paranoid or skeptical thinking, substance use) defined for the psychotic disorder in the patient (Sundararajan Rajagopal *et al*., 2014; Lucca *et al*., 2016) and no familial predisposition. Considering the information about the psychiatric side effects caused by isotretinoin in the literature, it was thought that the psychotic symptoms are closely related with isotretinoin. Isotretinoin treatment was discontinued and risperidone 1 mg oral was started. At the

second week, the psychotic symptoms of the patient were completely resolved.

Discussion

Adult cases of psychotic disorder following RA use have been reported. The characteristic of our case is the case of psychotic disorder induced by RA in adolescent period. Literature shows that psychiatric side effects can occur during any period of RA treatment, independent of the dose, and are recovered after the treatment is discontinued. In our case, psychotic symptoms were induced after 3 months of treatment and at the dose of 40 mg and the symptoms were completely resolved after 2 weeks of drug discontinuation and low dose antipsychotic treatment.

Due to absence of patient's premorbid risk factor and history of psychiatric illness in the family.the fact that the patient is younger than the age of onset of psychotic disorder, we can say that psychotic side effects can also be seen in patients who are not prone to them.

In a case report, psychotic symptoms started 5 days after initial dose of isotretinon, it completely resolved 4 days after the drug was discontinued and low dose antipsychotic was given. Low dose antipsychotic was continued for 3 months and psychotic symptoms did not recur during this period (Sundararajan Rajagopal *et al*., 2014). In another case report, a manic psychosis due to rae use was reported in a 20-year-old female patient who had no previous psychiatric follow-up and no risk factor. The patient used RA for a total of 45 days, initially 20 mg, and the last 15 days 60 mg / day. He recovered and was discharged 6 days after RA was stopped (Lucca *et al*., 2016). In our case, psychotic symptoms occurred after 3 months of use and 2 weeks after the dose was adjusted to 40 mg. Other cases were recovered within 1 week and our case fully recovered after 2 weeks.

It is important to control psychiatric side effects at dose increase as well as routine neuropsychiatric side effect monitoring in patients using RA.

In conclusion, it is important to note that adolescents who are not at risk for psychiatric disease may develop a serious psychiatric side effect, such as acute psychotic disorder, during RA treatment. However, with our case and other reported cases, these side effects improve rapidly with discontinuation of treatment.

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