



Acute psychosis and behavioural changes with seizure-like hyperactive psychomotor activity secondary to isotretinoin initiation in a healthy young male: case report

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Introduction and importance: Acute psychosis is a common brief psychiatric emergency period of delusions, hallucinations, disorganized thoughts and/or speech with or without psychomotor elements, which is not commonly induced by isotretinoin therapy. Dermatologists should counsel the patient before starting the treatment with all new, uncommon side effects, especially neuropsychiatric manifestations before starting this medication.

Case presentation: A 23-year-old male smoker with a known case of acne vulgaris recently started on isotretinoin for 2 weeks after which he developed abnormal hyperactive psychomotor activity. He was diagnosed with isotretinoin-induced acute psychosis based on clinical findings and exclusion, and valproic acid and olanzapine were initiated. The patient showed significant improvement.

Clinical discussion: Acute psychosis is a new, unfamiliar side effect presenting after initiation of isotretinoin therapy in young adults who were previously healthy. The mechanism is not well known but is thought to result from a decrease in the adult's neurogenesis or alterations in exposure of the serotonergic neurotransmitter system.

Conclusion: Isotretinoin is commonly used nowadays for treating young adults. Patients and their families should be counselled about all the psychiatric side effects. Antipsychotics and antiepileptics with mood stabilizers may improve the acute status for patients with isotretinoin-induced psychosis.

Keywords: case report study, depression, isotretinoin, mental activity, psychiatric

Introduction and importance

Isotretinoin is a form of vitamin A used to treat severe nodular acne that has not responded to other treatments. Isotretinoin is increasingly prescribed for severe acne, in addition to moderate acne and other skin conditions, including seborrhoea, seborrhoeic dermatitis, and scarring^[1]. This drug is known to induce several side effects, including depression and suicidal ideations. Acute psychosis with psychomotor agitation is a new, uncommon side effect even in patients who were naïve to mental illnesses and psychotropic agents or psychiatric prodrome.

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HIGHLIGHTS

- Acute psychosis with psychomotor agitation is a new, uncommon side effect of isotretinoin using even in patients who were naïve to mental illnesses and psychotropic agents or psychiatric prodrome.
- Isotretinoin is used to treat severe nodular acne that has not responded to other treatments and is increasingly prescribed for severe acne. So, it is very important to study its side effects mentally and physically.
- Dermatologists should counsel the patient before starting the treatment with all new, uncommon side effects, especially neuropsychiatric manifestations before starting this medication.
- Patients and their families should be counselled about all the psychiatric side effects and sometimes they should be screened for psychiatric disorders especially if they have family history before starting the treatment.
- Antipsychotics and antiepileptics with mood stabilizers may improve the acute status for patients with isotretinoin-induced psychosis.

Case presentaion

A 23-year-old male smoker with no known medical illness except for acne vulgaris presented to our facility. According to the family he was taking isotretinoin for acne treatment for 15 days at a dose of 40 mg once daily, which was ideal for his weight early in the

morning and before bed time. Over the last five days from starting the medication, the family noticed behavioural changes in form of unhappy mood, social withdrawal, self-isolation, crying, and telling them you are not my family and I want to die. Elements of auditory hallucinations, agitation, and fighting with his family were reported. Two days after stopping the medication, he started to have increased frequency in the previously mentioned behavioural changes.

In addition, he had abnormal movements in form of tonic posture in the upper limbs with flexion of the hip and knee joints with closing, one incident per day of up-rolling of eyes lasting 5 min associated with increased salivation. No sphincter involvement was noted. After the eye incident, he immediately returned to baseline condition. He also had loss of appetite and weight loss of 5 kg within one week. Five days before the hospital admission, he became bed ridden at home with fluctuating level of consciousness and communication. He had episodic hyperactive psychomotor activity with poor responsiveness. His young female cousin received the same medication and presented similar, but milder, symptoms, which resolved completely after stopping the medication. Upon neurological examination, he had fluctuating responsiveness apart from the lack of focality. Laboratory tests, including toxicology screen, Wilson's disease, porphyria, and vasculitis. The patient's laboratory tests showed normal values for white blood count (8.2), haemoglobin (13.5), red blood count (5.19), and platelets (290). Results for inflammatory and autoimmune markers were as follows: C3 (10), C4 (12), DsDNA (0.22), ANA (1:80), ENA (negative), ESR (13), and CRP (0.77). Results from paraneoplastic, Cerebrospinal fluid (CSF) and lumbar punctures were all within normal levels. In addition, computed tomography (CT), computed tomography venography (CTV), MRI, and positron emission tomography (PET) scans were unremarkable. The patient underwent treatment with valproic acid, olanzapine, and PRN midazolam. The patient showed improvement on valproic acid, olanzapine, and PRN midazolam. Our case is being reported in line with (CARE) guidelines^[2].

Clinical discussion

We present one more case highlighting the potential psychiatric consequences of a medication used to treat a physical condition^[1].

Isotretinoin is the only non-psychotropic drug that ranks among the list of top 10 drugs in the Food and Drug Administration's (FDA) database in terms of the number of reports on depression and suicidal attempts, whereas psychosis, obsessive-compulsive disorder, and anxiety have been rarely reported^[3].

Several studies have explained the effect of retinoic acid on serotonin and dopamine secretion and production on molecular levels. They have shown that isotretinoin causes elevation in dopamine production in brain leading to its adverse mood effects; its effect on hippocampus has also been established leading to low mood. No known direct way to affect the cognition^[4].

Due to its effectiveness, an increasing tendency for prescribing isotretinoin has been found even for less severe forms of acne (as was the case in this patient). As a result, psychiatric side effects due to isotretinoin are likely to occur more frequently^[5].

Our patient was a young male, but no clear gender differences in isotretinoin therapy for acne vulgaris was found in other studies^[6].

Only a few previous reports of psychosis have been published concerning young male patients who developed acute psychosis in form of persecutory delusions within a few days of starting isotretinoin^[1].

Another case of a 19-year-old female student in law school was reported. She was brought in by her family with complaints of insomnia, nervousness, fear, and extreme religious pursuits. She claimed that she was a special kind of human only 2 months after starting the treatment^[3].

Also, our case report features a young male who developed a first psychotic episode within three months of starting isotretinoin therapy. The patient was hospitalized, and organic pathologies and use of psychoactive substances that could explain his presentation were ruled out^[7].

Olanzapine showed good response with patients who suffered from psychosis shortly after starting isotretinoin^[8].

We believe isotretinoin is a strong important medication for certain dermatological conditions. However, careful patients selection and monitoring needed to avoid a lot of physical and psychological side effects. We advise to counsel the patients about the possible psychological side effects before starting the medication. Also screening might needed for the major psychiatric/psychological disorders on patients who have high risk or strong family history.

Conclusion

Isotretinoin is commonly used nowadays for treating young adults. Patients and their families should be counselled about all the psychiatric side effects and sometimes they should be screened for psychiatric disorders especially if they have family history before starting the treatment. Antipsychotics and antiepileptics with mood stabilizers may improve the acute status for patients with isotretinoin-induced psychosis.

Ethics approval and consent to participate

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Consent for publication

Not applicable.

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Author contribution

R.A., H.A., and N.A. wrote the manuscript. M.A.: revision the manuscript. All authors read approved the final manuscript. All authors read, approved, and reviewed the final manuscript.

Conflicts of interest disclosure

The authors declare that they have no competing interests.

Availability of data and materials

All data generated or analyzed during this study are included in this published article.

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