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Psychosis during treatment with isotretinoin

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Introduction

Isotretinoin, the 13-*cis* isomer of all-*trans*-retinoic acid, is a retinoid and thus a derivative of vitamin A. It has been used successfully since the 1980s to treat severe recalcitrant nodular acne [Sundstrom *et al.* 2010], but various case reports have suggested that isotretinoin is associated with depression and suicidal behaviour [Citrome, 1998; Hazen *et al.* 1983; Wysowski and Swartz, 2005] and manic psychosis [Barak *et al.* 2005]. To the best of the authors' knowledge, there have been hardly any reports of psychosis during treatment with isotretinoin.

Case report

We report the case of Ms S, a 25-year-old law student who was admitted to our hospital in January 2011 for emergency treatment for psychotic symptoms. The main symptoms were disorders of thought content, i.e. a marked systematized delusion, with persecutory delusions and delusions of reference, and hallucinations: her flat was bugged, the tap water was poisoned, animals were telling her where to go and she incessantly heard birds chirping. No other psychopathological abnormalities were present and, in particular, cognition and consciousness were not impaired, so that there was reasonable support for a psychotic disorder.

At the time of admission, Ms S had no known history of mental illness. There was no relevant family history, apart from a diagnosis of bipolar disorder of her 2-year-old brother. Ms S reported a history of occasional alcohol consumption but denied consuming drugs or smoking.

The physical examination at admission found moderately severe acne on the back and face, preferentially localized on the forehead. The physical examination was otherwise normal, as were vital signs, laboratory diagnostics, toxicological screening, EEG, ECG and cranial MRT.

Ms S had been suffering from acne vulgaris since the start of puberty. In December 2010 treatment was initiated with the oral vitamin A derivative isotretinoin, 20 mg/day. She took the medication for 3 weeks, during which time the psychotic condition developed insidiously. A clear temporal link between starting the vitamin A derivative and developing the disorder was reported by both relatives and also by the patient herself. Once the vitamin A derivative was discontinued, the psychotic symptoms quickly improved and fully remitted within 10 days. Despite the patient's complete remission, for security reasons a neuroleptic treatment with quetiapine was initiated a few days later and titrated up to 400 mg as a prophylactic measure. The reason for this decision was the fact that our patient was entering a particularly demanding phase at university and her positive family history for bipolar disorder. The acne vulgaris was treated systemically for 14 days with 50 mg oral doxycycline and topical acne gel (clindamycin 10mg, benzoyl peroxide 50 mg) and ketoconazole 2% (20mg) solution.

After 6 weeks of dermatological treatment the acne vulgaris was almost completely remitted. The patient tolerated quetiapine well and showed no recurrence of psychopathological symptoms, which were also absent at the regular follow-up investigations (the most recent of which was in October 2011). Treatment with quetiapine is being continued for now.

Discussion

Excess dietary vitamin A has been reported to induce psychosis [O'Reilly *et al.* 2008]. However, case reports suggest that isotretinoin is associated predominantly with depression and suicidal behaviour [Citrome, 1998; Hazen *et al.* 1983; Wysowski and Swartz, 2005]. Our case reveals the importance of regular psychiatric examination of any patient being treated with vitamin A

derivates. Moreover, any psychiatric side effects during treatment with vitamin A should be recorded in special drug registers to allow better assessment of the incidence of psychotic symptoms with this treatment.

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Conflict of interest statement

The authors declare no conflicts of interest in preparing this letter.

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