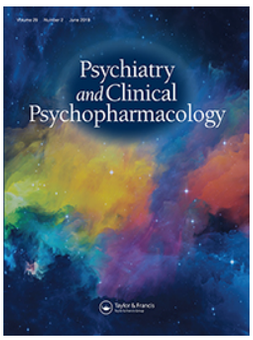

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CASE REPORT

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Acneiform eruption associated with the use of vortioxetine

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ABSTRACT

Acneiform is used to describe eruptions that resemble acne vulgaris, but are not aetiologically similar. A number of drugs that can be responsible for acneiform eruptions exist. Vortioxetine is a multimodal antidepressant molecule that shows an antagonistic effect to the 5HT1D, 5HT3, and 5HT7 receptors, a partial agonistic effect to the 5HT1B receptor and a fully agonistic effect to the 5HT1A receptor, and also is an inhibitor to the serotonin transporter (SERT). In this article, we report a female patient who developed acneiform eruption during vortioxetine treatment.

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KEYWORDS
Vortioxetine; antidepressant; depression; acneiform eruption; ldermatologic side effect; adverse effect

Introduction

Vortioxetine is a multimodal antidepressant molecule that shows an antagonistic effect to the 5HT1D, 5HT3, and 5HT7 receptors, a partial agonistic effect to the 5HT1B receptor and a fully agonistic effect to the 5HT1A receptor, and also is an inhibitor to the serotonin transporter (SERT). The use of vortioxetine in animal models has been shown to increase extracellular serotonin, acetylcholine, norepinephrine, and histamine concentrations [1]. Vortioxetine is believed to enhance glutamatergic transmission through 5HT3 and 5HT7 receptors and thus have a therapeutic effect on cognitive functions [2]. Vortioxetine is a safe and tolerable drug in the treatment of the major depressive disorder. The rate of withdrawal because of adverse effects with vortioxetine 15 mg (6.8%) was similar to the rates reported in previous studies using vortioxetine doses up to 10 mg, that is 3–9% [3]. The number needed to harm, for discontinuation of vortioxetine due to an adverse event, was 36 (95% CI 24 to 70) [4]. At the end of the six-week study by Jain et al. [5], 18/597 subjects (3%) had discontinued the treatment due to adverse effects. There were no differences between the vortioxetine 5 mg and placebo groups with regard to the number of subjects who discontinued the study because of an adverse effect [5]. The most common adverse effects are nausea, and more rarely diarrhoea, constipation, dizziness, abnormal dreaming, flushing, general pruritus, bruxism, and night sweats can also be observed [6]. In this article, we report a female patient who developed acneiform eruption during vortioxetine treatment. The patient was given written consent to use her information and photograph.

Case

A 20-year-old female patient is single and a university student. About 4 months ago, venlafaxine 75 mg/day treatment was recommended according to her reluctance, unhappiness, insomnia, lack of study, and attention complaints. Her psychological complaints were partially receded after the medical treatment, however recently, due to her complaints as increasing weight, slower executive thinking processing, and forgetfulness, she applied to our clinic in order to change her medicine. It was learned in her medical history that, she started using the drug because of similar complaints after the stress factors that she experienced about 3 years ago and she has been using a number of antidepressants which she was not able to recall their names. There was no mental illness in her family history. Her Hamilton Depression Scale (HDRS) score was 13 points. The venlafaxine treatment was reduced and ended. For ongoing mental complaints, vortioxetine treatment was recommended with initially 5 mg/day, which has little effect on putting on weight and which has been developed with minor side effects on cognitive functions, and it has been suggested to increase vortioxetine dosage to 10 mg/day, after 1 week of usage. One month later, the patient's depressive complaints were decreased and had an HDRS score: 11. During the fifth week of the treatment with vortioxetine, the patient had developed acne on both cheek areas on the face and did not care about this by relating it to her menstrual cycle but in the following days, the lesions spread to the larger area of the skin and she applied to the dermatology clinic as a result of bleeding due to scratching. The patient had no dermatological disease in her medical history. Due to the blood tests

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results, asked by the dermatologist, were within normal limits, no additional disease or drug usage history other than vortioxetine the onset of drug use in the anamnesis and the characteristics of the lesion the "acneiform eruption" was diagnosed, and withdrawal of vortioxetine and beginning of topical tetracycline treatment was recommended. The patient, who was recommended to end the treatment, applied to our clinic. Fluoxetine 20 mg/day therapy was started because of the continuation of the patient's psychological complaints and weight gain concerns. Withdrawal of the medication and topical antibiotic treatment resulted in a decrease of old lesions on the face of the patient and prevention of new lesions to develop during the use of fluoxetine.

Discussion

Acneiform is used to describe eruptions that resemble acne vulgaris, but are not aetiologically similar. Acneiform eruption, which is diagnosed based on medical history and clinical features, usually begins within the first 1–3 weeks of drug use [7]. Acneiform eruptions are usually observed in adults, begins as an acute disease, and characterized by pustules on the face, neck, shoulders, chest, and back. Usually, comedones and cysts do not accompany. The lesions can sometimes be itchy. After drug withdrawal, they heal spontaneously depending on the half-life of the drug [8].

A number of drugs that can be responsible for acneiform eruptions exist. Examples of these medicines include halogen-containing compounds (radiopaque-contrast materials, sedatives, analgesics), antiepileptics (phenytoin, carbamazepine, gabapentin), antituberculosis drugs (isoniazid), lithium, growth hormone, cyclosporin, medroxyprogesterone, anabolic steroids (danazol, testosterone), and vitamin B12 [9].

Dermatologic side effects due to vortioxetine are redness of the face, neck, arms, and occasionally, upper chest, red or purple spots on the skin, itching skin [10]. No published reports have been found about vortioxetine in the English publications; however, case reports of escitalopram [11], sertraline [12], and duloxetine [13] are present.

A 32-year-old woman, diagnosed with depression, developed pustular eruptions starting at the abdomen and spread to the arms and legs, 2 weeks after escitalopram use and the lesions decreased within weeks after medication was discontinued and without additional treatment needed [11].

In a 38-year-old patient who was diagnosed with paranoid schizophrenia and had no active psychotic symptoms, sertraline 50 mg/day was added to the patient's routine risperidone 8 mg/day treatment when depressive symptoms were started, and acneiform lesions developed on the face 12 days later and healed spontaneously within 5 days following drug withdrawal [12].

A 43-year-old woman with depressive complaints developed acne-like rashes on both cheeks, forehead, and chest areas 1 month after the treatment initiated. After a comprehensive evaluation by dermatology consultant, acneiform eruption due to duloxetine use was diagnosed and topical tetracycline preparation was initiated, and duloxetine treatment was recommended to be continued since the lesions will take time to recover. At the 1-month follow-up visit, the patient stated that the old lesions had been regressed and no new lesions had been developed [13].

Two possibilities are emphasized for dermatological adverse effects arising from selective serotonin reuptake inhibitors (SSRI). The first possibility is that individuals with hypersensitivity may develop these adverse effects due to an increase in serotonin concentration in the blood; however, the other possibility is that may be these adverse effects are associated with increased serotonergic activity in the dermal and epidermal range rather than hypersensitivity [14]. The mechanism of dermatologic adverse effects caused by vortioxetine was not fully understood but can be explained by serotonin.

Despite the fact that they are accepted as alternatives to SSRIs and are a novel multimodal antidepressants, they may be similar to SSRIs in terms of dermatologic adverse effects.

Topical antibiotics such as topical benzoyl peroxide, fusidic acid, erythromycin, clindamycin are used in the treatment of mild acneiform eruptions. Systemic tetracycline and fusidic acid can be used in the case of unresponsiveness of these treatments. Oral isotretinoin is also quite effective, but it can cause adverse effects such as paronychia and xerosis in patients. Antihistaminic agents may be added to patients with itches [15]. In our case, topical antibiotic treatment was added as well as vortioxetine withdrawal because the lesions were widespread, itchy, and haemorrhagic.

Our case is important because it is the first case that develops acneiform eruption with vortioxetine use. Dermatologic adverse effects may impair compliance with treatment in patients using the drug, especially with cosmetic concerns. Careful examinations by physicians may be important for increasing treatment compliance, in terms of the emphasis of fewer dermatologic adverse effects of vortioxetine, which was recently entered into the market, than other antidepressants.

Disclosure statement

No potential conflict of interest was reported by the authors.

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