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CASE REPORT



Maculopapular rash associated with risperidone in a child

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ABSTRACT

Risperidone is an atypical antipsychotic that antagonizes 5HT_{2A} and D₂ receptors. Risperidone is used for many indications in children and adolescents. These indications include bipolar mania, schizophrenia, disruptive behaviour disorders, and aggression associated with autism spectrum disorder/mental retardation. Although it is usually well tolerated, weight gain, somnolence, rhinitis, headache, and rising appetite are among the most noticed side effects. Here we present a 5-year-old boy who developed diffuse nonpruritic maculopapular skin rash with a stable dosage of risperidone in the eighth month of treatment.

ARTICLE HISTORY

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KEYWORDS

Risperidone; skin rash; child; behavioural problem; antipsychotic; side effects

Introduction

Risperidone has been reported to be effective in the management of disruptive behaviours, including aggression, hyperactivity, irritability, impulsivity, low frustration tolerance, and temper tantrums. Although it is usually well tolerated, weight gain, somnolence, rhinitis, headache, and rising appetite are among the most noticed side effects [1]. In general, urticaria, exanthematous rash, pruritus, pigmentation, fix drug eruptions, alopecia, erythema multiforme, and photosensitivity can be seen due to atypical antipsychotics. The most common of these side effects is exanthematous reactions. Chlorpromazine, clozapine, and risperidone cause more types of dermatologic side effects than other antipsychotics. In general, skin eruptions that begin between the 3rd and 14th day of treatment are accompanied by an elevation in body temperature [2,3]. There are several drug-related side effects reports in children with risperidone treatment. Here we present a 5-year-old boy who developed diffuse nonpruritic maculopapular skin rash with a stable dosage of risperidone in the eighth month of treatment. To our knowledge, this is the first case of skin reactions caused by treatment with risperidone in childhood. Additionally, this case is remarkable in that it is a late allergic reaction.

Case

A male child, aged 5 years and 8 months, who has been followed up with the diagnosis of resistant behavioural problems for the last 1 years. According to the information obtained from the interview with the patient's family; the complaints of the patient started at the

age of 4 and gradually led to deterioration in functioning. He was initiated on 0.5 mg of risperidone solution 8 months ago, as his family previously had refused to comply with behavioural therapy. The patient applied the treatment regularly and marked improvement in his symptoms. He was admitted to the emergency department at our hospital with a maculopapular skin rash on his lower extremity and body. On examination of the patient, less than 5 mm in diameter and not faded by palpation maculopapular skin rash in the body was noted (Figure 1). His intellectual capacity and developmental history were within normal limits. He had no important neurological or medical history. He had no known another drug or food allergies so far. He did not use medication other than risperidone in the last month. The patient's leukocyte count, liver function, urea, creatinine, sedimentation, and C-reactive protein test results were normal. The viral serologic test results were negative. The patient's risperidone treatment was stopped and he was followed without giving another drug. Family education for behaviour disorder was applied to the patient's family. The lesions started regressing after four days and were absent two weeks after the intervention. Other possibilities such as systemic and infectious aetiologies are excluded and, a temporal relation between the risperidone use and onset of skin rash and improvement after stopping are noted. We obtained consent from his family to publish this report and to include his photograph.

Discussion

Risperidone, a benzisoxazole derivative, is an atypical antipsychotic. Serotonin 5-HT_{2A} receptor and dopamine

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Figure 1. Photograph of a 5-year-old male patient after risperidone treatment.

D₂ receptor antagonism is the main mechanism of action in the atypical antipsychotic medication [4]. Risperidone is used for many indications in children and adolescents. These indications include bipolar mania, schizophrenia, disruptive behaviour disorders, and aggression associated with autism spectrum disorder/mental retardation [5].

One of the previously reported dermatologic side effects due to different forms of risperidone in the literature is a 20-year-old male patient with desquamation in his hands after oral risperidone treatment. Another is a 37-year-old male patient who has suffered desquamation on the face, resulting in the use of risperidone oral solution. A 26-year-old male patient with a psychosis diagnosed had a maculopapular rash without desquamation following initiation of risperidone injection therapy. There is also a case in the literature that did not develop dermatologic side effects due to oral risperidone but developed a skin rash after treatment with risperidone injection. As a result, different dermatological side effects can occur with the use of different forms of risperidone [6–9].

Development of maculopapular skin rash after start with risperidone and complete resolution after its discontinuation is suggestive of a causal effect. In addition, the Naranjo causality assessment scale score for adverse drug reactions is 6 points, so it is probable that the adverse reaction is caused by the risperidone [10].

The side effects of drugs can be classified as either type A (dose dependent, e.g. extrapyramidal side effects) or type B (dose independent, e.g. skin reactions). Side effects occur when the antipsychotic drug

or metabolite combines with a cell component and acts like a hapten, thereby stimulating the immune system. Antipsychotic drug-induced skin reactions usually start in the upper part of the torso and gradually spread evenly over the entire body [2,11].

In conclusion, there are several reports on skin rash during risperidone in adult; however, in children, this is the first case of skin rash associated with risperidone in the late period. Prescribers and parents should be alert to the possibility of such late adverse reaction.

Disclosure statement

No potential conflict of interest was reported by the authors.

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