DOI: 10.14744/DAJPNS.2022.00172
Dusunen Adam J Psychiatr Neurol Sci
2022;35:56-58

CASE REPORT

Risperidone-induced fecal incontinence: A case report

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ABSTRACT

Fecal incontinence is defined as the inability to postpone or control the defecation requirement until socially convenient. There are many effective factors in its etiology. Drugs used in the treatment are one of these etiologic factors. Risperidone is an atypical antipsychotic with an antagonistic effect on dopamine 2 (D2) and serotonin 2A (5-HT2A) receptors and shows an affinity for noradrenaline α1 and α2 receptors. Risperidone is an effective and safe agent used in children and adolescents with psychiatric disorders such as oppositional defiant disorder (ODD) and conduct disorder. Fecal incontinence is an uncommon side effect of risperidone use. This report presents a 13-year-old patient with attention deficit hyperactivity disorder and ODD who developed fecal incontinence after dose increase due to risperidone treatment. This case is presented because there is a low number of case reports on risperidone-induced fecal incontinence in the literature.

Keywords: Adverse effect, children, fecal incontinence, risperidone

INTRODUCTION

Risperidone is an atypical antipsychotic with an antagonistic effect on dopamine 2 (D2) and serotonin 2A (5-HT2A) receptors and shows an affinity for noradrenaline α1 and α2 receptors (1,2). It is an effective and safe agent used in treating children and adolescents with mental disorders such as psychotic disorders (2,3), autism spectrum disorder (ASD) (4), tic disorder (5), attention deficit hyperactivity disorder (ADHD) accompanied by aggression (6), oppositional defiant disorder (ODD) (6), conduct disorder (6), and bipolar disorder (7). Common side effects of risperidone include abdominal pain, dizziness, increased appetite, weight gain, sedation, nausea, vomiting, and constipation (8,9). In addition to these side effects, other rare but significant side effects have been reported such as neuroleptic malignant syndrome, glaucoma, long QT syndrome, myasthenia gravis, urinary tract infection, painful urination, and fecal incontinence (10,11). Fecal incontinence is defined as the inability to postpone or control the defecation requirement until socially convenient. More than 95% of children over the age of 4 years and more than 99% of children over the age of 5 years achieve bowel control; the problem of fecal incontinence in children of this age is mostly resolved without the need for treatment. Fecal incontinence is found three to six times more in boys than in girls and affects 3% of 4-year-old children and 1.6% of 10-year-old children. There are primary and secondary causes of fecal incontinence. Constipation, anal fissures, hormonal problems, spina bifida, and drugs are among the secondary causes (12,13). There are case presentations in the literature reporting atomoxetine- and methylphenidate (MPH)-induced fecal incontinence (14,15). This report presents a 13-year-old patient with

How to cite this article: Aygun B, Karayagmurlu A, Gulcu Ustun NS. Risperidone-induced fecal incontinence: A case report. Dusunen Adam J Psychiatr Neurol Sci 2022;35:56-58.

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Received: March 03, 2021; **Revised:** February 27, 2022; **Accepted:** February 28, 2022

ADHD and ODD who developed fecal incontinence after risperidone treatment. This case is presented because it is one of the rare risperidone-related fecal incontinence cases in children reported in the literature.

CASE

S.K., a 13-year-old male patient presented to our clinic with complaints of hyperactivity, difficulty in maintaining attention, and irritability. History taken from the family revealed that he was easily distracted, was having difficulty in doing homework, left seat in situations when remaining seated is expected in school, talked excessively, fought with his friends, and did not follow the school rules. It was learned from the family that the complaints are persisting since he started school. It was further learned that he had been to the child and adolescent psychiatry clinic when he was 10 years old and diagnosed with ADHD and ODD. In addition, drug treatment was started for these diagnoses at that time. In the mental state examination, the child was conscious, cooperative, dressed appropriately for his age and socioeconomic status, very active, his mood was irritable, distracted during the interview, there was no pathology in his perception, and thought content, and his tolerance for frustration was reduced. There was no history of any significant physical illness. In his psychometric evaluations, in Conners' Parent Rating Scale scores, attention deficit, hyperactivity, and ODD were evaluated as 7/9, 7/9, and 5/8, respectively. The patient was diagnosed with ADHD and ODD based on the anamnesis taken from the family, mental status examination, and psychometric evaluation. The patient was started osmotic release oral system (OROS) MPH at 27 mg/day and used it regularly for a month. As no improvement was observed via the OROS MPH 27 mg/day treatment, the dose was increased to 36 mg/day. Although ADHD symptoms decreased following the dose increase, risperidone 0.5 mg/day was started because ODD symptoms persisted. After a week, the dose was increased to 1 mg/day. After the dose increase, the patient complained of daytime fecal incontinence, and it was learned that these complaints recurred three to four times daily for a week. In the control interview with the family, his parents reported that the patient had used risperidone before, that he had fecal incontinence complaints during that period, and that they remembered this situation after the occurrence of side effects. Risperidone treatment was discontinued due to fecal incontinence. Following the discontinuation of the drug, fecal incontinence complaints of the patient were found to drop back. Aripiprazole at 5 mg/day was initiated for the patient's ODD symptoms and increased to 10 mg/day dose. The patient was followed up for 6 months with the aripiprazole at 10 mg/day and OROS MPH at 36 mg/day treatment. It was learned that the symptoms of ADHD and ODD decreased significantly, and the complaints of fecal incontinence did not recur. The patient was planned to be followed up with drug therapy and family interviews at 2-month intervals.

The parents of the patient provided written and verbal consent, and the patient provided assent for publication.

DISCUSSION

This report presents a 13-year-old male patient who developed fecal incontinence during risperidone therapy. Although risperidone is an effective and safe agent used in the treatment of ADHD and ODD, side effects may occur during its use (2,6). The most common complaints include nausea, vomiting, abdominal pain, weight gain, sedation, dystonia, and akathisia (8,9). To the best of our knowledge, there are very few case reports of risperidone-induced fecal incontinence in the literature. In a case report by Cop et al. (16), a 10-year-old male patient with ASD was reported to develop urinary and fecal incontinence during treatment with risperidone. In this case, both urinary and fecal incontinence were observed depending on the dose during treatment with risperidone. Similarly, Herguner and Mukaddes (17) reported that fecal and urinary incontinence developed during treatment with risperidone in two patients with ASD. Fecal incontinence was dose-dependent in both studies, compatible with the present study. However, fecal incontinence was accompanied by urinary incontinence in other cases, whereas only fecal incontinence was observed during treatment with risperidone in the present case (16,17).

Fecal incontinence developed in our case was assessed with the Naranjo Adverse Drug Reaction Probability Scale. Naranjo Adverse Drug Reaction Probability Scale evaluates whether the side effects that occur during drug use are associated with the drug (18). In this scale, the reaction is considered "definite" if the score is 9 or higher, "probable" if 5 to 8, "possible" if 1 to 4, and "doubtful" if 0 or less. When our case was evaluated according to the Naranjo scale, the total score was found to be 7 (probable). The present adverse reaction was thought to be probably related to risperidone as the adverse reaction occurred after the use of the drug, regressed after discontinuation of the drug, was dose-dependent, and occurred in the past when the same drug was given.

Risperidone is an agent with an antagonistic effect on serotonin type 2A (5-HT2A) and dopamine type 2 (D2) receptors, and with a strong blocking effect on α1 and α2 adrenergic receptors (1,2). It is known that risperidone can affect various urodynamic parameters, including increased residual volume and decreased activity in the external urethral sphincter (19). We believe that the fecal incontinence side effect developed in our case is associated with the α1 adrenergic effect of risperidone. The α1 adrenergic system regulates the tone of internal anal sphincters. Stimulation of α1 receptors in the sphincter causes contraction of the internal anal sphincter. The blockage of the α1 adrenergic receptor may cause fecal incontinence by reducing the internal anal sphincter tone (19). There is a need for further studies to better understand the mechanisms of fecal incontinence associated with risperidone.

Fecal incontinence may appear with the increase in the dose of risperidone. Clinicians should consider the possibility of fecal incontinence during risperidone use and should consult the relevant departments for any side effects. Clinicians should carefully monitor side effects, especially during dose increase. This will be beneficial for both diagnosis and intervention.

Contribution Categories		Author Initials
Category 1	Concept/Design	B.A.
	Literature review	B.A., N.S.G.U.
	Data analysis/Interpretation	A.K.
	Case follow-up (if applicable)	B.A.
Category 2	Drafting manuscript	B.A., N.S.G.U.
	Critical revision of manuscript	A.K., N.S.G.U.
Category 3	Final approval and accountability	B.A.
Other	Technical or material support	A.K., N.S.G.U.
	Supervision	A.K.

Informed Consent: Informed consent was obtained from the patient and his parents.

Peer-review: Externally peer-reviewed.

Conflict of Interest: The authors declare that they have no conflict of interest.

Financial Disclosure: The authors declare that they have no financial support.

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