

Bowel incontinence associated with risperidone: A case report

Hemendra Singh^{1*}, Udayan Bhaumik², Adarsh Basaveshwara³, Aditi Singh⁴

^{1,4}Assistant Professor, ^{2,3}Post Graduate, Dept. of Psychiatry, M.S. Ramaiah Medical College Bangalore, Karnataka, India

*Corresponding Author: Hemendra Singh

Email: hemendradoc2010@gmail.com

Abstract

Introduction: Bowel incontinence due to antipsychotic drugs is rarely seen as an adverse effect. The mechanism of it is poorly understood, though alpha antagonism is believed to play an important role, along with secondary antihistaminergic action. It is usually a self-limiting side effect though in rare cases, needs to be managed. Here we report a case of bowel incontinence associated with the use of Risperidone.

Case Description: A 35-year-old Mr. A was treated with Risperidone 2mg for control of psychotic symptoms. The patient reported bowel incontinence on the fourth day of inpatient care. Other probable causes for the same were ruled out. Resolution of incontinence occurred after discontinuation of Risperidone.

Discussion: In our case, the use of risperidone is a possible reason for bowel incontinence. However, not many case reports have been previously documented wherein a patient developed bowel incontinence with an antipsychotic drug.

Conclusion: Risperidone associated bowel incontinence is an uncommon manifestation. Hence, clinicians should be aware of such unusual adverse event associated with Risperidone use.

Keywords: Bowel incontinence, Risperidone, Antipsychotics.

Introduction

Risperidone, an atypical antipsychotic belongs to the chemical class of benzisoxazole derivatives.¹ It is commonly used to treat schizophrenia and other psychotic disorders. It is predominantly believed to act as a dopaminergic (D2) and serotonergic receptor (5HT1A) antagonist.² Side effects of Risperidone commonly include movement disorders and high blood glucose levels¹. In rare cases, bowel and bladder disturbances have been observed with Risperidone. The mechanism for the same is unclear. Here we describe a case of Risperidone-associated fecal incontinence and attempt to elucidate a probable mechanism for the same.

Case Summary

Mr. A, a 35yr old male presented to us with history of auditory hallucinations followed by secondary delusions of reference and persecution about being harmed for 3 days' duration. There was no family history of mental illness. There were alcohol and tobacco use for 15 years independence pattern, with last drink being 3 days before admission. He was also a diabetic for 3 years, with well-controlled glycaemic status on intermediate-acting insulin 30 units at night. He was not on any other medications. A diagnosis of complicated withdrawal in delirium was considered to account for psychotic symptoms. Risperidone was started after psychotic symptoms did not resolve with combined oral and injectable Lorazepam at titrated doses. After 4 days on Risperidone 2 mg/day, the patient had 2 episodes of bowel incontinence at night. Over the next 5 days, he had about 10 episodes of incontinence, the majority of which were during sleep. Risperidone was stopped before discharge. Incontinence also resolved 3 days after the same. Before discharge, Baclofen was started as an anti-craving agent. Presence of excess sedation was enquired into and ruled out. Investigations showed normal complete blood picture, liver and renal function tests and

serum electrolyte levels. Random blood glucose (124 mg/dL) and Glycosylated Haemoglobin (HbA1C-6.2%) estimates were also normal. Endocrinology Opinion in view of the possibility of Diabetes mellitus contributing to incontinence was taken and ruled out. This ruled out possible effects of sedation due to Lorazepam. Naranjo Causality Scale³ was administered and a score of 5 was obtained suggesting a probable adverse drug reaction to Risperidone.

He was readmitted after 3 days with a relapse of psychotic symptoms hence, Risperidone and Baclofen were restarted. Restarting Risperidone led to the onset of incontinence. Baclofen is a muscle relaxant, a possibility of incontinence due to Baclofen was also considered. Hence both Baclofen and Risperidone were stopped. Later Baclofen was restarted and the patient did not have further episodes of incontinence. Hence confirmation of Risperidone being associated with bowel incontinence was obtained. Baclofen, metformin 500 mg twice daily, insulin therapy (30 units at night) and nicotine replacement for tobacco cessation were continued at the time of second discharge. At follow up done after 2 weeks, he was maintaining well and was abstinent with no further complaints of incontinence.

Discussion

Bowel incontinence is classifiable into several types-passive, urge, and combined.⁴ It is believed to be usually associated with anatomical or physiological abnormalities of the anorectal area or of the muscles regulating the tone of anal sphincter.⁴ Electromechanical dissociation of the internal anal sphincter is commonly implicated in such cases.^{5,6} Diabetes mellitus is an important cause of bowel incontinence. The pathophysiology of incontinence in Diabetes is poorly understood.⁷ It appears to be related to microangiopathic and widespread autonomic and peripheral neuropathic changes.^{8,9} Abnormal recto-anal

inhibitory reflex is seen in the majority of such cases.¹⁰ In diabetes, bowel incontinence is parallels the degree of glycaemic control and duration of illness.⁷ Urinary incontinence also has a similar mechanism¹¹. In our case, the patient is middle-aged with a duration of illness being 3 years. He was also found to have a normal glycaemic control with medications. This reduces the likelihood of incontinence in our case being solely related to diabetic changes.

There are reports of antipsychotic-induced incontinence in literature. The highest is associated with Clozapine,^{12,13} with prevalence being highly varied (2.4-42%). Double incontinence or isolated bowel incontinence is relatively rare. Anecdotal observations with other atypical antipsychotics like Olanzapine,¹⁴⁻¹⁶ Asenapine¹⁷ and Risperidone^{18,19} have also been made. Isolated bowel incontinence is further uncommon.

Risperidone has affinity for D2, 5HT2A, alpha 1, alpha 2 and H1 receptors. In this, it shares some similarities with clozapine, which also has affinity for 5HT2A, 5HT2C, 5HT6, 5HT7, D4, M1, H1 and alpha1 receptors.^{1,2} Its main difference with Risperidone lies in its weak D2 antagonism in comparison to Risperidone. The strong adrenergic blockade (both alpha1 and alpha2) seen with both drugs reduces the tone of the internal anal sphincter and is the most probable cause for bowel incontinence.^{1,2,18,19} H1 receptor antagonism is known to cause sedation with both the drugs, which may be a contributing factor for incontinence during sleep, as in our case. However, there may be other underlying mechanisms for the same.²⁰ Double incontinence with Risperidone has till now been reported in two children with autism who have prescribed Risperidone for behavioral problems.¹⁸ To our knowledge; this is the first case with isolated bowel incontinence with Risperidone.

Bowel incontinence with antipsychotics is generally dose-dependent and transient. It usually does not require any therapeutic intervention. In rare cases, the drug may have to be stopped. There are also reports of treating the incontinence with alpha1 agonists like ephedrine.²¹ In our case stopping Risperidone led to resolution of the incontinence.

Conclusions

Incontinence of bowel or bladder is an embarrassing event, with the possibility of underreporting of symptom.¹³ It may also affect drug compliance in such cases. Hence it requires prompt management. Sometimes reassurance and observation may be sufficient. Choosing an agent with low propensity for alpha blockade (e.g.: Aripiprazole) or use of alpha agonists like Ephedrine are some other options.²¹ Clinicians should be aware of this rare adverse effect while treating such patients.

Acknowledgments: Nil

Funding: Nil

Conflict of Interest: None.

References

1. Keegan D. Risperidone: neurochemical, pharmacologic and clinical properties of a new antipsychotic drug. *Can J Psychiatry* 1994;39(9 Suppl 2):S46-52.
2. Ereshefsky L, Lacombe S. Pharmacological profile of Risperidone. *Can J Psychiatry* 1993;38 Suppl 3:S80-8.
3. Naranjo CA, Busto U, Sellers EM, Sandor P, Ruiz I, Roberts EA, et al. A method for estimating the probability of adverse drug reactions: *Clin Pharmacol Ther* 1981;30(2):239-45.
4. Deutekom M, Dobben AC, Terra MP, Engel AF, Stoker J, Bossuyt PM et al. Clinical presentation of fecal incontinence and anorectal function: what is the relationship? *Am J Gastroenterol* 2007;102(2):351-61.
5. Farouk R, Duthie G.S, MacGregor A.B, Bartolo D.C.C. Evidence of electromechanical dissociation of the internal anal sphincter in idiopathic fecal incontinence. *Diseases of the Colon & Rectum*: 1994 doi: 10.1007/BF02050996
6. Rao SS. Pathophysiology of Adult Bowel incontinence. *Gastroenterol* 2004;126(1 Suppl 1):S14-22.
7. Sun WM, Katsinelos P, Horowitz M, Read NW. Disturbances in anorectal function in patients with diabetes mellitus and bowel incontinence. *Eur J Gastroenterol Hepatol* 1995;8(10):1007-12.
8. Epanomeritakis E, Koutsoumbi P, Tsiaoussis I, Ganotakis E, Vlata M, Vassilakis JS, et al. Impairment of anorectal function in diabetes mellitus parallels duration of the disease: is Colon Rectum. 1999;42(11):1394-1400.
9. Erckenbrecht JF, Winter HJ, Cicmir I, Wienbeck M. Bowel incontinence in diabetes mellitus: is it correlated to diabetic autonomic or peripheral neuropathy? *Z Gastroenterol* 1988;26(12):731-6.
10. Kemal I D, Ranjan P, Mahilal MD F, De Silva. The recto-anal inhibitory reflex: Abnormal response in diabetics suggests an intrinsic neuroenteropathy. *J Gastroentero Hepatol* 1998;13(11):1107-10.
11. Rui Wang, Roger Lefevre, Michele R. Hacker, and Toni H. Golen. Diabetes, glycemic control, and urinary incontinence in women. *Female Pelvic Med Reconstr Surg* 2015;21(5):293-7. doi:10.1097/SPV.000000000000193.
12. Lin CC, Bai YM, Chen JY, Lin CY, Lan TH. A retrospective study of clozapine and urinary incontinence in Chinese in-patients. *Acta Psychiatr Scand* 1999;100(2):158-61.
13. Mehtar m and Ucok A.A Case Report of Double Incontinence Associated with Clozapine. *Prim Care Companion J Clin Psychiatry* 2007;9(2).
14. Mobolaji U D, Lateef O O, Patrick A T, Peter O T. Olanzapine as a Cause of Urinary Incontinence: A Case Report. *Iran J Psychiatry* 2012;7:146-8.
15. R. Sagar, S T Varghese, Y P S Balhara. Olanzapine-Induced Double Incontinence. *Ind J Med Sci* 2005;59(4).
16. Ginsberg, D.L. Olanzapine-Induced Fecal Incontinence. *Prim Psychiatry* 2003;10.
17. Gurvinder P S, Rajinder K, Poonam B. Asenapine-induced Double Incontinence: A Case Report. *Indian J Psychiatry* 2014;56(4):410-1.
18. Herguner S, Mukaddes NM. Risperidone-induced enuresis in two children with autistic disorder. *J Child Adolesc Psychopharmacol* 2007;17:527-30.
19. Sabri H, and Mukaddes N V. Risperidone-Induced Double Incontinence. *Neuro-Psychopharmacol Biol Psychiatry* 2008;32:1085-6.
20. Vera PL, Miranda-Sousa A, Nadelhaft I. Effects of two atypical neuroleptics, olanzapine and risperidone, on the function of the urinary bladder and the external urethral sphincter in anesthetized rats. *BM Cent Pharmacol* 2001;1:4.
21. Fuller MA, Borovicka MC, Jaskiw GE. Clozapine-induced urinary incontinence: incidence and treatment with ephedrine. *J Clin Psychiatry* 1996;57:514-8.