Using Glycopyrrolate as an alternative option in case of Risperidone induced sialorrhoea

Dr. Hemanta Dutta

MBBS, M.D (Psychiatry), Senior resident, Department of Psychiatry,
LGB regional Institute of Mental Health, Tezpur, Assam, India.
email-rubulpd1984@rediffmail.com
Phone- +91-8486279647,

Dr.Soumik Sengupta

MBBS, M.D (Psychiatry) Assistant professor, Department of Psychiatry,
LGB regional Institute of Mental Health, Tezpur, Assam, India.
email- drsoumiksengupta@gmail.com
Phone- +91-9864559009

Abstract:

Drug induced hypersalivation has been playing an unique factor in terms of noncompliance of antipsychotics. Hypersalivation has been described commonly with clozapine. Although Risperidone is also seen to be notorious to be causing hypersalivation. Use of Glycopyrrolate in Risperidone induced hypersalivation has not been covered though reported studies till yet. Here we are depicting the use of Glycopyrrolate as an alternative treatment option for hypersalivation induced by Risperidone.

Introduction:

Antipsychotic induced hypersalivation has been described in various literature works (1, 2, 3). Among the antipsychotics particularly Clozapine is frequently described to be associated with excessive salivation (2, 3). Medications like Atropine eye drops, Benzatropine, Biperiden, Glycopyrronium, Hyoscine hydrobromide, Ipratropium bromide nasal spray, Oxybutynin, Pirenzepine, Trihexyphenidyl, Clonidine, Guanfacine, Terazosin and Lofexidine has been portrayed to be used in antipsychotic induced hypersalivation especially clozapine (4, 5). Risperidone is an additionally atypical antipsychotic which has the propensity for excessive salivation through its action on alpha adrenoreceptors of salivary glands, cholinergic receptors and swallowing reflex (6). Hypersalivation with Risperidone has been less described through literatures (6,7). Studies have reported use of Biperidine and clonidine particularly in the patients with Risperidone induced Hypersalivation (6, 7). Glycopyrrolate is an antimuscurinic agent used specially in anaesthetic purpose (8). Wider use of Glycopyrrolate has been demonstrated in case of Clozapine induced Hypersalivation (9). But the use of Glycopyrrolate in case Risperidone induced hypersalivation has not been explained through any study till yet. Here we have demonstrated the use of Glycopyrrolate in case of hypersalivation induced by Risperidone who had not responded with conventional anti sialorrhoic drugs, which were depicted through literary works as available treatment options for the same.

Case history:

A 25 years female presented to us in our Out Patient Department with history of 2 years of fearfulness, suspiciousness, hearing of voices not heard by others. Her past and medical history did not uncover any abnormality. Mental status examination finding revealed she was conscious, alert, normal psychomotor activity, constricted affect, delusion of persecution, delusion of reference, 2nd person auditory hallucination, impaired judgment and insight. She was diagnosed to be a case of paranoid schizophrenia as per ICD 10 criteria and was admitted.

She was started with tablet Risperidone 3 mg/day and Trihexiphenidyl 2 mg/day. She was not responding to the medications up to a dose of Tab Risperidone 8 mg/day. Anyhow, after titration up to a dose of 10 mg/day of Risperidone in 4 weeks duration, she started responding to Risperidone. But she started having extra pyramidal symptoms (EPS) like tremor, cog wheel rigidity, slurring of speech and excessive salivation. For the emergence of EPS tablet Trihexyphinydyl had been increased upto 8 mg/day. Severity of EPS started decreasing, but excessive salivation was persisted with the same degree of severity.

Conventional treatment options as suggested by previous studies for Risperidone induced salivation like Clonidine 200 microgram/day, Biperidin 2 mg/day was administered but they demonstrated no outcomes. Later on we started tablet Glycopyrrolate 2mg/ day. Patient showed a dramatic improvement with Tablet

Glycopyrrolate and she was maintaining well with tablet Risperidone 10 mg/day, Trihexiphenidyl 8 mg/ day and tablet Glycopyrrolate 2 mg, in her subsequent visit.

Discussion:

Excessive salivation is an unfavorable adverse effect of antipsychotic treatment perhaps because of the antimuscarinic properties of a few antipsychotics (1). Hypersalivation induced by Risperidone has not been covered so much in the literature. The proposed mechanisms are mainly postsynaptic a-adrenergic-mediated, by blockade of the α-adrenoreceptors at the level of salivary glands, a cholinergic-specific M4 receptor stimulation and an abnormal deglutition by blockade of receptors in the pharynx or in the muscles involved in the swallowing reflex (6). Studies have demonstrated the use of drugs like clonidine and Biperiden in Risperidone induced salivation (6,7). Role of Glycopyrrolate in Clozapine induced hypersalivation has been decently reported by previous studies. But till now no literature has described use of Glycopyrrolate in the case of Risperidone induced excessive salivation (4,9). Here in our case first we attempted to use conventional drugs like Biperiden and clonidine, use of which were well documented. However, in our patient no improvement was noted. Later on we have used Glycopyrrolate to decrease the salivation and have got a significant response. Most probably more selective action on the peripheral muscarinic receptors of the salivary glands by Glycopyrrolate is playing a role in our case as reported by Duggal (9). The motivation behind our case report is to throw a light on the use of Glycopyrrolate as an alternative treatment option in case of Risperidone induced hypersalivation.

References:

[1] Szabadi E, Tavernor S. Hypo- and hypersalivation induced by psychoactive drugs: Incidence, mechanisms and therapeutic implications. CNS Drugs 1999;11(6):449-466.
[2] Bird AM, Smith TL, Walton AE. Current treatment strategies for clozapine-induced sialorrhea. Ann Pharmacother 2011;45:667-75.
[3] Praharaj SK, Arora M and Gandotra S. Clozapine-induced sialorrhea: pathophysiology and management strategies. Psychopharmacology 2006; 185:265-273.
[4] Taylor D, Paton C, Kapur S. The South London and Maudsley NHS Foundation Trust, Oxleas NHS Foundation Trust. The Maudsley Prescribing Guidelines in Psychiatry. 11th Edition. Chichester, Wiley Blackwell; 2012 pp75-78, 89-92.
[5] Calderon J, Rubin E, Sobota WL. Potential use of ipratropium bromide for the treatment of clozapine-induced hypersalivation: a preliminary report. Int Clin Psychopharmacol 2000;15:49-52.
[6] Panagiotidis P, Fountoulakis K,Siamouli M, Magiria S, Iacovides A, Kaprinis G . Risperidone-induced sialorrhea responsive to biperiden treatment. Annals of General Psychiatry 2008.2008;7(1): S287
[7] Gajwani P, Franco-Bronson K, Tesar GE. Risperidone-induced sialorrhea (letter). Psychosomatics 2001; 42(3):276.
[8] Bajaj V, Langtry JA. Use of oral glycopyrronium bromide in hyperhidrosis. Br. J. Dermatol.2007; 157(1):118-21.
[9] Duggal HS. Glycopyrrolate for clozapine-induced sialorrhea. Prog Neuropsycho pharmacol Biol Psychiatry 2007; 31:1546–1547.