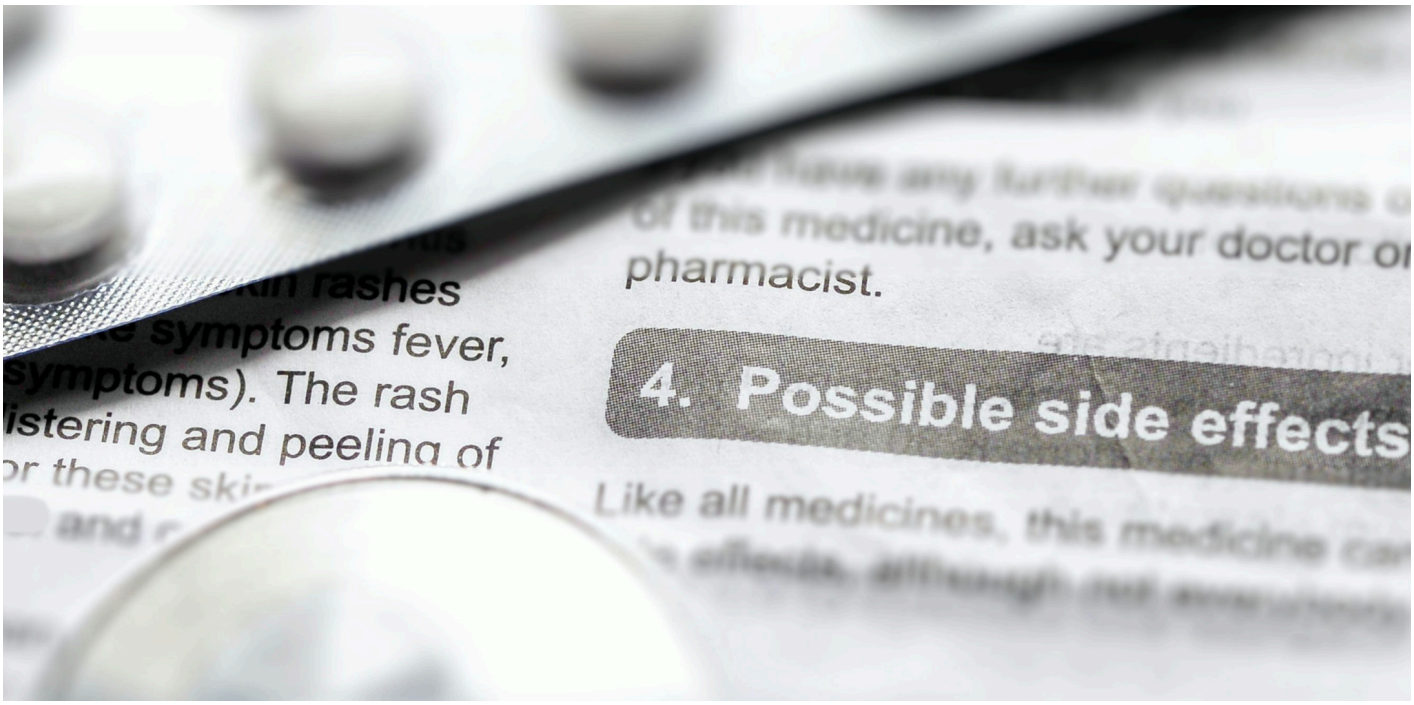

Antipsychotic-Induced Dystonia

Lurasidone-induced Tardive Oromandibular Dystonia

Calogero Crapanzano[a]; Chiara Amendola[b]; Ilaria Casolaro[c]
[a] ASPAG, CSM Licata, Italy; [b] Azienda USL Toscana Centro, CSM Scandicci, Firenze, Italy; [c] Azienda Socio Sanitaria Territoriale (ASST) Ovest Milanese, Milano, Italy

Abstract

Lurasidone is an atypical antipsychotic that antagonizes the dopamine receptor D2 with a high affinity. There are very few publications about lurasidone-induced tardive dystonia. We present the case of a patient who developed tardive oromandibular dystonia while using lurasidone.

Keywords: Antipsychotic; biological psychiatry; clinical psychiatry; extrapyramidal and movement disorders; psychopharmacology

Case Report

Tardive dystonia is one of the major subtypes of tardive syndromes that includes drug-induced movement disorders caused by long-term antipsychotic treatment, such as tardive dyskinesia, tardive dystonia, tardive myoclonus, tardive tourettism, and tardive tremors. The prevalence of tardive dystonia in 194 patients with a history of long-term antipsychotic use was reported to be 13.4%, often in comorbidity with one or more tardive syndromes [1]. Its onset ranges from a few days to several years after antipsychotic exposure, without a minimum safe period. No dopamine receptor D2 antagonists are without risk of causing tardive dystonia; however, several concomitant factors such as genetic predisposition, male sex, and young age, may be involved [2]. A comprehensive literature search was conducted on Google Scholar, PubMed, and Web of Science using the search input "(lurasidone) AND (dystonia or motor or tardive or movement)". Only three tardive dystonic reactions following lurasidone treatment (two of which were cases of oromandibular dystonia) were identified [3].

We present the case of a 31-year-old Caucasian woman with a history of schizoaffective disorder who was treated in one of the Outpatient Units of the Department of Mental Health, Provincial Health Company of Agrigento, Italy, beginning in August 2020. She was clinically stable for ten months on the following unchanged polytherapy: olanzapine 20 mg/d, oxcarbazepine 600 mg/d, trazodone 300 mg/d, and lorazepam 2.5 mg/d. Due to a progressive weight gain of 15 kg, we gradually switched from olanzapine to aripiprazole 20 mg/d in June 2021. After two weeks, aripiprazole was discontinued due to nausea, a feeling of nervousness, myalgia, and insomnia, and lurasidone 74 mg/d was initiated with good efficacy and tolerability. Given the long half-life of aripiprazole, an abrupt switch approach was used [4]. However, four months after lurasidone therapy, in October

2021, the patient experienced an episode of tardive oromandibular dystonia, which resulted in a compromised position of the jaw with uncontrolled and sustained left lateral dystonic movements of the jaw that interfered with opening and closing the mouth, chewing, and speech (fig. 1). The patient appeared significantly distressed and anxious, with impaired activities of daily living, so lurasidone was stopped, biperiden 8 mg/d was started, and lorazepam was increased to 7.5 mg/d. Two weeks later, due to therapeutic inefficacy, tetrabenazine was added and titrated up to 75 mg/d. One year after the onset of dystonia, the symptoms remained unchanged, and the patient switched to a different outpatient mental health service.

Lurasidone is an atypical antipsychotic approved for the treatment of schizophrenia and bipolar I disorder. Lurasidone shows high affinity for the 5-hydroxytryptamine (serotonin) receptor 1A (5-HT1A), 5-HT2A2, 5-HT7, and D2 alpha 2 receptors and low affinity for the muscarinic acetylcholine M1, histamine H1, 5-HT2C, and alpha 1 adrenergic receptors [5]. Some of the most common adverse events reported with lurasidone include akathisia, parkinsonism, and insomnia; however, weight gain is less common than with olanzapine [6]. In a study of 107 patients treated for tardive dystonia, baclofen, tetrabenazine, benzodiazepines, and anticholinergic medications showed "at least some benefit" in about 50% of patients and 83% following botulinum toxin injection. The remission rate was low, related to the duration of the antipsychotic treatment, and occurred after a mean of 2.6 years from its discontinuation [2].

Conclusion

Our case demonstrates that lurasidone may cause tardive dystonia, though we cannot exclude previous antipsychotics as the primary cause. When prescribing a dopamine receptor D2 antagonist like lurasidone [7], clinicians and patients should be aware of this potentially irreversible adverse effect.

Figure 1: The patient showed deviation of the mandible, open bite and jaw pain.

Correspondence

Calogero Crapanzano
ASPAG, CSM Licata
C/da Cannavecchia
c/o Ospedale San Giacomo D'Altopasso
92027 Licata
Italy
calogerocrapanzano87[at]gmail.com

Ethics Statement

Written informed consent was obtained.

Funding Statement

The research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

Conflict of interests

The authors have no potential conflict of interest to declare.

Author Contributions

All the authors contributed to this work and approved the final submission.

References

1 van Harten PN, Hoek HW, Matroos GE, Koeter M, Kahn RS. The inter-relationships of tardive dyskinesia, parkinsonism, akathisia and tardive dystonia: the Curaçao Extrapyramidal Syndromes Study II. Schizophr Res. 1997 Aug;26(2-3):235–42.

2 Kiriakakis V, Bhatia KP, Quinn NP, Marsden CD. The natural history of tardive dystonia. A long-term follow-up study of 107 cases. Brain. 1998 Nov;121(Pt 11):2053–66.

3 Tripathi R, Reich SG, Scorr L, Guardiani E, Factor SA. Lurasidone-Induced Tardive Syndrome. Mov Disord Clin Pract. 2019 Jul;6(7):601–4.

4 Javed A, Arthur H, Curtis L, Hansen L, Pappa S. Practical Guidance on the Use of Lurasidone for the Treatment of Adults with Schizophrenia. Neurol Ther. 2019 Dec;8(2):215–30.

5 Ishibashi T, Horisawa T, Tokuda K, Ishiyama T, Ogasa M, Tagashira R, et al. Pharmacological profile of lurasidone, a novel antipsychotic agent with potent 5-hydroxytryptamine 7 (5-HT7) and 5-HT1A receptor activity. J Pharmacol Exp Ther. 2010 Jul;334(1):171–81.

6 Corponi F, Fabbri C, Bitter I, Montgomery S, Vieta E, Kasper S, et al. Novel antipsychotics specificity profile: A clinically oriented review of lurasidone, brexpiprazole, cariprazine and lumateperone. Eur Neuropsychopharmacol. 2019 Sep;29(9):971–85.

7 Crapanzano C, Amendola C, Steen J, Casolaro I. Case report of lurasidone in the treatment of chronic tic disorders. Ann Clin Psychiatry. 2023 Feb;35(1):135–6.

Calogero Crapanzano
ASPAG, CSM Licata, Italy