



Caring for Mind and Heart



Yalda FarahMand Shahin Akhondzadeh

Psychiatric Research Center, Roozbeh Hospital, Tehran University of Medical Sciences, Tehran, Iran.



Citation FarahMand Y, Akhondzadeh Sh. Caring for Mind and Heart. Case Reports in Clinical Practice. 2023; 8(2):50-51.

Running Title Mind and Heart



Article info:

Received: 20 March 2023

Revised: 14 April 2023

Accepted: 29 April 2023

Antipsychotic drugs are frequently prescribed for the treatment of schizophrenia and schizophrenia like disorders and a variety of other psychotic diseases, including depression and mania phase of bipolar, Tourette's disorder and even irritation related to autistic disorder. These drugs are considered to be typical or atypical antipsychotics. Typical or the first-generation class (such as phenothiazine, butyrophenones, thioxanthenes, dibenzoxazepines, dihydroindoles and diphenylbutylpiperidines), act as dopamine receptor antagonists (DRA), while atypicals are second-generation antipsychotics (such as risperidone, clozapine, olanzapine, quetiapine, ziprasidone, aripiprazole, paliperidone, asenapine, lurasidone, iloperidone, cariprazine, brexpiprazole) that function as serotonin-dopamine antagonists [1,2]. Despite being the principal treatment for a variety of mental disease, antipsychotics- both first and second generation, exhibit various side effects, including cardiovascular effects which can cause cardiovascular disease, especially in the patients with untreated first episode of psychosis, children and youths [3-5].

Many researches show that antipsychotics of both generations have different cardiotoxic adverse effects beside other side effects, such as extrapyramidal and feeling dizzy caused by blockage of h1 histamine in first generation drugs or metabolic syndromes and weight gain caused by second generation antipsychotics [3, 4]. The cardiovascular symptoms of these medications encompass a wide spectrum, ranging from elevated blood pressure to sudden cardiac death [5]. To be more specific, these effects include QT interval prolongation, tachycardia, orthostatic hypotension, Torsades de points (TdP), weight gain and metabolic effects, myocarditis and sudden death [6-7].

For instance, many of both categories such as haloperidol and thioridazine (typical agents) and ziprasidone (atypical agent), can be associated with QT interval prolongation which are closely related to fatal ventricular arrhythmia like TdP, whereas, in this case medication such as aripiprazole (atypical agent) seems to be safe. In this case the most important task for the physician is to monitor the patient to prevent QT prolongation [7].

* Corresponding Author:

Shahin Akhondzadeh Ph.D.

Address: Psychiatric Research Center, Roozbeh Psychiatric Hospital, Tehran University of Medical Sciences, South Kargar Street, Tehran, Iran.

E-mail: s.akhond@tums.ac.ir



Other studies indicates that the FDA has issued a warning about thioridazine's risk of sudden cardiac death and it also causes orthostatic hypotension as well as chlorpromazine [4]. Some researches shows that clozapine and in fewer cases quetiapine, olanzapine, risperidone and haloperidol, can lead to myocarditis and if so, the

patient should stop taking the medication [6]. Many of the second generation drugs cause significant metabolic abnormalities including obesity, dyslipidemia, hyperglycemia and the metabolic syndrome, therefore, monitoring the patient for diabetes is highly recommended [4].

Ethical Considerations

Compliance with ethical guidelines

None

Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

Conflict of interest

The authors declared no conflict of interest.

Acknowledgements

None

References

- [1] Lally, J. and J.H. MacCabe, *Antipsychotic medication in schizophrenia: a review*. Br Med Bull, 2015. 114(1): p. 169-79.
- [2] Meltzer, H.Y., *Update on typical and atypical antipsychotic drugs*. Annu Rev Med, 2013. 64: p. 393-406.
- [3] De Hert, M., et al., *Metabolic and cardiovascular adverse effects associated with antipsychotic drugs*. Nat Rev Endocrinol, 2011. 8(2): p. 114-26.
- [4] Foley, D.L. and K.I. Morley, *Systematic review of early cardiometabolic outcomes of the first treated episode of psychosis*. Arch Gen Psychiatry, 2011. 68(6): p. 609-16.
- [5] Edinoff, A.N., et al., *Antipsychotic Polypharmacy-Related Cardiovascular Morbidity and Mortality: A Comprehensive Review*. Neurol Int, 2022. 14(1): p. 294-309.
- [6] Patterson Daniel, K.M.R., Luna Rudy, Sadeque Jafor, Sakshi Prasad, Chaithanya Avanthika, and Sharan Jhaverig, *Myocarditis in patients on long-term antipsychotics –mechanism, management and recent updates*. 2023.
- [7] Beach, S.R., et al., *QT Prolongation, Torsades de Pointes, and Psychotropic Medications: A 5-Year Update*. Psychosomatics, 2018. 59(2): p. 105-122.