International Journal of Early Childhood Special Education (INT-JECSE)
DOI:10.9756/INTJECSE/V14I5.979 ISSN: 1308-5581 Vol 14, Issue 05 2022

A Clinical Case Report On Haloperidol Induced Extrapyramidal Movement Disorder

1]Ms. Dharti Meshram 2]Ms. Priyanka Meshram 3]Mrs. Indu Alwadkar
4] Mrs. Pooja Kasturkar 5] Ms.Shabnam Sayyad 6] Aniket Pathade, 7] Pratiksha Munjewar

1] Ms. Dharti Meshram* Nursing Tutor, Department of Mental Health Nursing.
Florence Nightingale Training College of Nursing,
Datta Meghe Institute of Medical Sciences (Deemed to be University) Sawangi (M) Wardha.
Email Id- dhartimeshram9@gmail.com Mobile No. 7507517801, 8605556166.

2] Ms. Priyanka Meshram** Nursing Tutor, Department of Mental Health Nursing.
Florence Nightingale Training College of Nursing,
Datta Meghe Institute of Medical Sciences (Deemed to be University) Sawangi (M) Wardha.
Email Id- priyankameshramganvir@gmail.comMobile No. 8600289201

3] Mrs. Indu Alwadkar*** Principal of FNTCN, Department of Community Health Nursing.
Florence Nightingale Training College of Nursing,
Datta Meghe Institute of Medical Sciences (Deemed to be University) Sawangi (M) Wardha
Email Id- indualwadkae@gmail.com Mobile No 9960278995

4] Mrs. Pooja Kasturkar****Assistance Professor, Department of Mental Health Nursing.
Smt. Radhikabai Meghe Memorial College of Nursing.
Datta Meghe Institute of Medical Sciences (Deemed to be University) Sawangi (M) Wardha.
Email Id-poojakasturkar@gmail.com Mobile No 9673886027

5] Ms. Shabnam Sayyad***** Nursing Tutor, Department of Mental Health Nursing.
Florence Nightingale Training College of Nursing,
Datta Meghe Institute of Medical Sciences (Deemed to be University) Sawangi (M) Wardha.
Email Id- shabnamsayyad091@gmail.comMobile No. 9730796738

6] Research Scientist, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences, Sawangi, Wardha, Maharashtra.
7] Department of Medical-Surgical Nursing, Smt. Radhikabai Meghe Memorial College of Nursing,
Datta Meghe Institute of Medical Sciences, Sawangi, Wardha, Maharashtra.

ABSTRACT
Background: The most typical side effect of antipsychotic medications is extrapyramidal symptoms (EPS).Haloperidol is an atypical antipsychotic medicine that is highly potent, useful in treating hallucinations and delusions, and more likely to result in drug-induced EPS. Muscle stiffness, parkinsonism, and uncontrolled or delayed movements of any part of the body are some of the side effects of haloperidol. To prevent the side effect of the antipsychotic drug and to minimize the severity of symptoms of extrapyramidal as early as a possibility.
Presentation of case: The author presented a case of a 42 yrs. female developed the Extrapyramidal syndrome due to multiple antipsychotic drugsadministered as haloperidol for 17 years she was a known case of paranoid schizophrenia.Current episode patient receivedhaloperidol after 2 weeks she developed stiffness in the muscles, her movement was reduced and weakness in her lower limbs, her speech was slurred, her face was like a mask, and had difficulty performing the activity. The investigation carried out such as history taken physical examination muscle stiffness on limbs lower presented, mental status examination hallucination (visual and audial) present and suspiciousness also presented. The psychiatrist diagnosed extrapyramidal syndrome due to haloperidol and the patient was treated with Injectable. promethazine (Phenergan) 25 mg. An anticholinergic drug such as Benztropine, Biperiden,and Trihexyphenidyl, and symptoms were minimized after a week of improving the patient's condition.
Prognosis: the patient was treated with a symptomatically discontinued drug and treated with an antihistamine; the anticholinergic agent's patient prognosis was improved.

Conclusion: Primary managing entails correct diagnosis, withdrawal of offending medicines, risk factor reduction, and supportive therapy. The least likely to result in extrapyramidal symptoms are second-generation antipsychotics, which can be used depending on the patient's condition.

Keywords: Parkinsonism, Tardive dyskinesia, Hallucination, Benztropine, Trihexyphenidyl, Anticholinergic agents.

INTRODUCTION

The class of medications known as antipsychotics is used mostly to treat schizophrenia.[1] They are divided into the first and second generations or generations. Extrapyramidal symptoms were most likely predicted to be caused by first-generation medications. With the development of second-generation antipsychotics, expectations in the clinical community about the possibility of a reduced risk for extrapyramidal symptoms had grown.[2]Although the frequency then the severity of EPS (Extrapyramidal) side effects vary among antipsychotics, these second-generation medications had not met expectations for their tolerance. A range of movement syndromesfor example traditional dyskinesia, dystonia, pseudo-parkinsonism, and akathisia are among the utmost common EPS adverse effects.Acute dystonia, akathisia, and symptoms related to pseudo-Parkinson's disease lookfirst in the course of action, whereas tardive dyskinesia, tardive dystonia, and tardive akathisia develop years into the course of treatment.[3]Acute extrapyramidal adverse effects typically look shortly after starting an antipsychotic; they are dose-dependent and get worse when the dose is increased, although they can be avoided by stopping the offensive drug.[4]

D2 receptors in the mesolimbic and mezzo frontal circuits are blocked by antipsychotic medications (concerned with emotional reactions). The alpha-adrenergic blockage is what causes sedation. EPS is brought on by basal ganglia anti-dopaminergic effects. Serotonergic (5-hydroxytryptamine, or 5-HT) antiadrenergic properties are present in atypical antipsychotics and antihistaminic actions. As a result, they are referred to as serotonin-dopamine antagonists.[5]

Parkinson's disease is a long-lasting, neurodegenerative brain condition. Neuroleptics can cause Parkinson's disease. Rigidity, tremors, bradykinesia, hunched posture, drooling, akinesia, ataxia, etc. are symptoms. Anticholinergic medications are a treatment option for the disease. A persistent, neurodegenerative brain illness called Parkinson's disease.[6]

An individual with acute dystonia has uncontrollable muscle contractions injured body part twists uncontrollably as a result of the contraction, leading to repetitive motions or strange postures. Dystonia can affect a single muscle, a group of muscles, or the whole body. About 1% of people have dystonia, and women are more likely than males to get it.It appears that the basal ganglia issue causes dystonia. That part of the brain is in charge of starting muscular contractions. The communication between nerve cells in the issue.A gradual, persistent muscular spasm that caused an involuntary movement is what causes dystonic motions. The neck, mouth, tongue, and the entire body can be affected by dystonia (opisthotonos). The involvement of the eyes can also cause an oculogyric crisis, which is an upward lateral migration of the eye. Anticholinergics, antihistaminics, dopamine agonists, beta-adrenergic antagonists, benzodiazepines, etc. can all be used to avoid dystonia.[7]

A movement problem called akathisia makes it difficult to remain still. You have an uncontrollable want to move as a result of it.[8] Might need to move around constantly, cross and uncross your legs, or fidget.Akathisia is typically a side effect of antipsychotic medications.[9] A condition called akathisia makes a person feel restless and compelled to move immediately. Patients who have akathisia, a subjective muscular discomfort, may become agitated, restless, and generally dysphoric.Based on when it begins, the ailment is classified into different types: Soon after beginning to take the medication, acute akathisia sets in and lasts for fewer than six months. After taking the medication, tardive akathisia may not appear for months or even years.A chronic case of akathisia lasts for over a year. Akathisia patients experience an overwhelming need to move or a sense of agitation.[10]They perform monotonousactions like rocking back and forth throughverticaland sitting, fluctuating their weight from one leg to the other, pacing, shuffling while walking, lifting their feet as if marching, crossing and uncrossing their legs, or swinging one leg while seated as a way to quell the urge. Anxiety or panic, agitation, and impatience are further symptoms.[11]

Antipsychotics can have a delayed side effect known as (TDs) tardive dyskinesia.Automaticactivities of the Face, Lips, Tongue, extremities, or trunk are known as TDs and they can happen in people using long-term dopaminergic antagonist drugs.[12]TD results in uncontrollable rigid, jerky movements of the face and torso. Chewing, sucking, grimacing, and peri-oral movements are its hallmarks.[13]

An uncommon but deadly condition known as a neuroleptic malignant syndrome can develop in a small percentage of people using neuroleptics, particularly high-potency medications. Usually, but not always, the beginning occurs within the first 10 days of therapy. Severe motor, mental, and autonomic problems that manifest suddenly (often during 24-72 hours) are part of the clinical picture. Generalized muscle hypertonicity is the most noticeable motor sign. Dysphasia and dyspnea may be brought on by tense muscles in the chest and throat. Akinetic mutism, stupor, or impaired consciousness are some of the mental symptoms. When autonomic

abnormalities manifest as unstable blood pressure, tachycardia, profuse sweating, salivation, and urine incontinence, hyperpyrexia begins to develop. White cell count may rise and Creatinine Phosphokinase [CPK] levels in the blood may rise to extremely high levels. Pneumonia, thromboembolism, cardiovascular collapse, and renal failure are examples of secondary characteristics.[14]

PRESENTATION OF CASE

The author presented a case of a 42 yrs. female developed the Extrapyramidal syndrome due to multiple antipsychotic drugs administered as haloperidol for 17 years she was a known case of paranoid schizophrenia.Past Psychiatric History Before approaching these hospitals he takes treatment In a Private clinic Amravati, Nagpur, and had a history of antipsychotic drug Haloperidol for 17 years. as there was no positive outcome from the patient, residents referred this patient to the present hospital. For the past six weeks, the patient has had poor medication compliance.Current episode patient received haloperidol after 2 weeks she developed stiffness in the muscles, her movement was reduced and weakness in her lower limbs, her speech was slurred, her face was like a mask, and had difficulty performing an activity. All initial Investigationswere carried out such as history taken, physical examination, muscle stiffness on limbs and upper lower presented, face like a mask. Finding of Mental status examination was hallucination (visual and audial) present and suspiciousness also presented. blood investigation was carried out such as Renal function tests. sodium 134mmol/L, S. Creatinine 0.3, urea 16mg/dl, potassium 4.3mmol/dl, Alkaline Phosphates 84U/L, HB-11 gm%, MCV 78cub.micron, MCH 24.4pico gm, HCT 34.4%, RBS 84gm, granulocytes 72%, monocytes 2%. The psychiatrist diagnosed extrapyramidal syndrome due to haloperidol and the patient was treated with Injectable. promethazine (Phenergan) 25 mg. An anticholinergic drug such as Benztropine, Biperiden, and Trihexyphenidyl, and symptoms were minimized after a week patient's prognosis improved.

DISCUSSION

The patient was admitted for three weeks, during which time nursing care and psychopharmacological therapies were provided. The patient was successfully discharged from the hospital, and weekly follow-up appointments have been held in the psychiatric OPD. Before and after sensitivity analysis, the collective prevalence of antipsychotic-induced EPSEs among patients administered these drugs werethirty-seven percent respectively. The results of this study on tardive dyskinesiaare in line with anorderlyinvestigation, that found that patients on antipsychotic medicines had a prevalence of tardive dyskinesia of nine percent. When compared to a review of the literature, which indicated that twenty-five percent of a client had akathisia, the pooled estimate of akathisia was shown to be lower. Since only patients who took antipsychotic drugs were included in this study, the prior review may have included individuals who took all psychotropic medications as the cause of the discrepancy. Additionally, past evaluations were unable to quantitatively analyze (meta-analyze) research conducted in settings with natural treatment to produce an evidence-based pooled estimate.[15-21]

The study discovered a substantial correlation between the symptomseverity of schizophrenia and several types of EPS. The correlation among the severity of schizophrenia, depressive symptoms, or akathisia was confirmed. No clinical research has thus far demonstrated a relationship between the intensity of akathisia and the favorable symptoms[22-31]. The association between the PANSS positive score and the severity of akathisia due to drug-induced may simply be a coincidence given the relationship's low correlation coefficient (r0.1). There was a strong correlation between the severity of tardive dyskinesia and the PANSS negative total scale. The link amongTDs or the unfavorable symptoms of schizophrenia was confirmed by Mentzel and colleagues as well as Gebhardt and colleagues. The study's findings revealed a positive correlation between various types of EPS and how severe schizophrenia's mental and mood symptoms are.[32-34]

More research is required because there are few RCTs in schizophrenia that address FEP. Agreed its significant danger of Extrapyramidal symptoms, even at a modest dose, haloperidol should not be used as an FGA comparator in future FEP trials.Only two RCTs other than those using haloperidol in FEP used an FGA. According to the CATIE study, low potency FGA perphenazine, which is used to treat chronic schizophrenia, has an EPS-liability that is comparable to that of many SGAs but a comparatively low risk of weight gain and metabolic disturbance. Given that many SGAs carry considerable hazards of weight gain or disturbed metabolic, more studies of low-potency FGAs are necessary for FEP.[35-39]

CONCLUSION

The frequency of EPSEs caused by antipsychotics was notably high. The most frequent EPSE in which checked was drug-induced parkinsonism, this were followed by akathisia. Additionally, one in thirteen clients had Tardive Dyskinesia, a problematic-to-manage form of extrapyramidal symptoms that required extra attention from doctors. The paradox of tardive and parkinsonian signs should be minimally taken into account while treatment. The net advantages of antipsychotic medication can be increased with appropriate avoidance and firsttreatment of these side effects. Designing recommendations for EPSE treatment and selecting antipsychotics with the fewest side effects and psycho-educational requirements are worthwhile considerations.

CONFLICT OF INTEREST: - No conflict.

FINANCIAL SUPPORT: Self

REFERENCES:

1. Stępnicki P, Kondej M, Kaczor AA. Current concepts and treatments of schizophrenia. Molecules. 2018 Aug;23(8):2087.
2. Sakhamuri V, Valicherla SV, Kona SV, Besabathini HG. Risperidone Induced Extrapyramidal Side Effects: A Rare Case Report. Indian Journal of Pharmacy Practice. 2021 Jul;14(3):211.
3. Solmi M, Murru A, Pacchiarotti I, Undurraga J, Veronese N, Fornaro M, Stubbs B, Monaco F, Vieta E, Seeman MV, Correll CU. Safety, tolerability, and risks associated with first-and second-generation antipsychotics: a state-of-the-art clinical review. Therapeutics and clinical risk management. 2017;13:757.
4. Young SL, Taylor M, Lawrie SM. "First not harm." A systematic review of the prevalence and management of antipsychotic adverse effects. Journal of psychopharmacology. 2015 Apr;29(4):353-62.
5. Standaert DG, Galanter JM. Pharmacology of Dopaminergic. Principles of pharmacology: the pathophysiologic basis of drug therapy. 2008:185.
6. Doller JC. tardive dyskinesia and changing concepts of antipsychotic drug use: a nursing perspective.
7. Van Putten T. The many faces of akathisia. Comprehensive Psychiatry. 1975 Jan 1;16(1):43-7.
8. Adler LA, Angrist B, Reiter S, Rotrosen J. Neuroleptic-induced akathisia: a review. Psychopharmacology. 1989 Jan;97(1):1-1.
9. Sachdev P, Kruk J. Restlessness: the anatomy of a neuropsychiatric symptom. Australian and New Zealand journal of psychiatry. 1996 Jan 1;30(1):38-53.
10. Snyder CH, Adler CH. The patient with Parkinson's disease: part I–treating the motor symptoms; part II–treating the nonmotor symptoms. Journal of the American Academy of Nurse Practitioners. 2007 Apr;19(4):179-97.
11. Frucht SJ. Movement disorder emergencies. Current neurology and neuroscience reports. 2005 Aug 1;5(4):284-93.
12. Teo JT, Edwards MJ, Bhatia K. Tardive dyskinesia is caused by maladaptive synaptic plasticity: a hypothesis. Movement Disorders. 2012 Sep 1;27(10):1205-15.
13. Nissen L. Ondansetron-from PONV to Tardive Dyskinesia. Australian Pharmacist. 2010 Dec;29(12):1020-1.
14. Shirzadi AA, Ghaemi SN. Side effects of atypical antipsychotics: extrapyramidal symptoms and metabolic syndrome. Harvard review of psychiatry. 2006 Jan 1;14(3):152-64.
15. Ali T, Sisay M, Tariku M, Mekuria AN, Desalew A. antipsychotic-induced extrapyramidal side effects: A systematic review and meta-analysis of observational studies. PloS one. 2021 Sep 10;16(9):e0257129.
16. Haddad PM, Das A, Keyhani S, Chaudhry IB. Antipsychotic drugs and extrapyramidal side effects in first episode psychosis: a systematic review of head–head comparisons. Journal of Psychopharmacology. 2012 May;26(5_suppl):15-26.
17. Haddad PM, Sharma SG. Adverse effects of atypical antipsychotics. CNS drugs. 2007 Nov;21(11):911-36.
18. Juneja, S., Dangore-Khasbage, S., Bhowate, R.R., 2020. Parotid duct sialolithiasis- A case report. MEDICAL SCIENCE 24, 2224–2228.
19. Kailuke, R.M., Venigalla, B., Ninave, S.S., 2020. Laparoscopic Appendicectomy in a 26-Weeks Parturient. JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS 9, 1964–1966. https://doi.org/10.14260/jemds/2020/427
20. Kakade, T.L., Wajpeyi, S.M., 2020. Study in the Effect of Yavavati in the Management of Dyslipidemia. INTERNATIONAL JOURNAL OF AYURVEDIC MEDICINE 11, 265–270.
21. Kalambe, S., Jain, S., Disawal, A., Chandravanshi, D., Gaurkar, S., n.d. Supra-Threshold Hearing Sensitivity Disorders and Mild Permanent Hearing Loss: Neglected Cause of Hidden Hearing Loss and Speech Defects. INDIAN JOURNAL OF OTOLARYNGOLOGY AND HEAD & NECK SURGERY. https://doi.org/10.1007/s12070-020-01816-x
22. Kambala, S.S., Rathi, D., Borle, A., Rajanikanth, K., Jaiswal, T., Dhamande, M., 2020. Evaluating the color stability of ocular prosthesis after immersion in three different immersion media: An in vitro study. JOURNAL OF INTERNATIONAL SOCIETY OF PREVENTIVE AND COMMUNITY DENTISTRY 10, 226–234. https://doi.org/10.4103/jispcd.JISPCD_405_19
23. Kamble, R.H., Shrivastav, S.S., Sangtani, J., Ahuja, M.M., Bidwai, P., Murarka, S., 2020. Assessment of Change in SOC of Parents Participating in the Treatment of Their Children Having Cleft Lip & Palate Anomalies. JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS 9, 2447–2451. https://doi.org/10.14260/jemds/2020/532
24. Kamble, T.K., Kapse, A., Kumar, S., Acharya, S., Ghule, A., 2020. Study of Myocardial Performance Index in Prediabetes and Its Correlation with Other Cardiovascular Risk Factors. JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS 9, 721–725. https://doi.org/10.14260/jemds/2020/157

25. Karadbhajne, P., Tambekar, A., Gaidhane, A., Quazi Syed, Z., Gaidhane, S., Patil, M., 2020a. Amoebiasis in pregnant woman: A case report. MEDICAL SCIENCE 24, 1814–1817.
26. Karadbhajne, P., Tambekar, A., Gaidhane, A., Quazi Syed, Z., Gaidhane, S., Patil, M., 2020b. Giardiasis in tropical region in the state of Maharashtra: Case series. MEDICAL SCIENCE 24, 1684–1688.
27. Kasturkar, P.R., Gawai, J.P., 2020. Engaging School Going Children During COVID-19 Lockdown. JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH 14. https://doi.org/10.7860/JCDR/2020/44800.13952
28. Kekatpure, Aditya, Dhaniwala, N., Kekatpure, Aashay, Awasthi, A., Gupta, S., Nikose, S., Saoji, K., Bhatt, P., Dudhekar, U., 2020. Post radiofrequency full thickness burn in a case of osteoid osteoma of ulna: A case report and review of literature. MEDICAL SCIENCE 24, 3270–3276.
29. Khan, A., Acharya, N., Koshatwar, M., Sabnis, J., Sorte, A., 2020. Uterine Artery Embolization: A Boon for a Near Miss Case of Pseudoaneurysm. JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH 14, QD1–QD3. https://doi.org/10.7860/JCDR/2020/42951.13428
30. Khan, K., Chaturvedi, A., 2020. Rare Presentation and Successful Management of Cerebral Sinus Venous Thrombosis in a Patient with Sickle Cell Trait. JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH 14, OD09-OD10. https://doi.org/10.7860/JCDR/2020/44722.13842
31. Khan, K., I., Ghule, A., Kumar, S., 2020. Dry Bite by Common krait: A rare phenomenon & its management; rationale use of antivenom. MEDICAL SCIENCE 24, 2418–2423.
32. Khan, M.B., Sathe, N., Rathi, B., 2020. Evaluation of In Vitro Anti-Cancer Activity of Kukkutanakhi Guggula on Liver, Prostrate, Ovary and Renal Cancer. INTERNATIONAL JOURNAL OF AYURVEDIC MEDICINE 11, 491–496.
33. Khandare, K., Ghormode, P., 2020. Prolapsed rectal submucosal hematoma in pediatric case. PAN AFRICAN MEDICAL JOURNAL 37. https://doi.org/10.11604/pamj.2020.37.154.26149
34. Khandelwal, S., Shrivastava, D., 2020. Successful IVF Pregnancy in a Young Patient with Stromal Leydig Cell Tumour and Adenofibroma Simultaneously. JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS 9, 1613–1615. https://doi.org/10.14260/jemds/2020/352
35. Khandelwal, S., Tayade, S.A., Shrivastava, D., Dhurve, K.P., 2020. Complete Uterine Septum as an Incidental Finding as a Cause of Post-Partum Haemorrhage and Role of Balloon Tamponade. JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS 9, 3700–3702. https://doi.org/10.14260/jemds/2020/812
36. Kharpate, S., Rathi, N., Gomase, P.V., Baliga, S., Thosar, N., 2020. Appraisal of Awareness and Attitude of School Teachers towards Emergency Management of Dental Trauma and Tooth Avulsion Replantation. JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS 9, 2951–2954. https://doi.org/10.14260/jemds/2020/647
37. Khatana, R., Khatana, A., 2020. A rare case of Beckwith-Wiedemann syndrome with encephalocele. PAN AFRICAN MEDICAL JOURNAL 37. https://doi.org/10.11604/pamj.2020.37.317.26158
38. Khatana, R., Rathi, R., 2020. A rare case of hereditary multiple osteochondromas. PAN AFRICAN MEDICAL JOURNAL 37. https://doi.org/10.11604/pamj.2020.37.173.25960
39. Khatib, M.N., Gaidhane, A., Ahmed, M., Saxena, D., Quazi Syed, Z., 2020. Early Childhood Development Programs in Low Middle-Income Countries for Rearing Healthy Children: A Systematic Review. JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH 14, LE1–LE7. https://doi.org/10.7860/JCDR/2020/42134.13445