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HALOPERIDOL INDUCED EXTRA PRYAMIDAL SYMPTOMS - A CASE REPORT

K. Karthickeyan *, R. Manikandan, G. C. Keerthana, S. Girija and R. S. Suruthy

Department of Pharmacy Practice, SRM College of Pharmacy, SRM Institute of Science and Technology, Kattankulathur, Kanchipuram - 603203, Tamil Nadu, India.

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Correspondence to Author:
K. Karthickeyan

Assistant Professor,
Department of Pharmacy Practice,
SRM College of Pharmacy, SRM Institute of Science and Technology,
Kattankulathur, Kanchipuram - 603203, Tamil Nadu, India.

E-mail: karthickeyank@hotmail.com

ABSTRACT: Extrapyramidal symptoms (EPS) are the most common adverse effect of antipsychotic drugs. Haloperidol is atypical antipsychotic agents which has high potency, effectively used against delusion, hallucinations and have increased propensity to cause drug induced EPS. The adverse effects of haloperidol include muscle stiffness, parkinsonism, uncontrolled or slowed movements of any part of the body. Here we report a case of 33 years old male patient developed EPS after intramuscular administration of haloperidol for delusion disorder. After 3 weeks patient developed muscle stiffness and reduced movements. The patient was treated with Inj. promethazine (phenergan) 25 mg which showed gradual improvement in clinical condition after a week. Hence, physicians should evaluate the patient condition regularly to prevent the progression of adverse events, which improves the patient condition physically and economically. Primary management includes proper diagnosis, discontinuation of offending drugs, reduction of risk factors and supportive medical management. Second generation antipsychotics have the lowest propensity to cause extrapyramidal symptoms can be used based on the patient condition.

INTRODUCTION: Delusion disorders are the syndromes associated mainly with the limbic system and basal ganglia dysfunction produced by neurological disease or toxic metabolic disorder [1]. In India prevalence of delusion disorder is 1% of the total outpatients, including half with delusional parasitosis [2]. Haloperidol is an atypical anti-psychotic agent which has high potency, effectively used against delusion, hallucinations and have increased propensity to cause drug induced EPS [3]. Even the world literature has few times reported that prolonged use of haloperidol may produce drug induced EPS [4, 5].

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It is the neurological disturbance that affects motor coordination in the area of the brain. First generation antipsychotics such as haloperidol, fluphenazine has high potency to induce EPS that includes rigidity, muscle stiffness, mask like face and tremor than low potency agents [6]. EPS due to haloperidol is a common adverse effect. Therefore, here we discuss about a case of extrapyramidal symptoms due to haloperidol administration.

Case Report: A 33 years old male patient came to hospital for complaints of generalized weakness, stiffness of the body, and decreased movements. He is already a known case of delusional disorder and alcohol dependence syndrome. Before three weeks, he was treated with T. divalproex, T. trihexylphendiyl and inj. haloperidol 50 mg i.m. After three weeks, he developed a stiffness of all four limbs, weakness of lower limbs, reduced movements, slurred speech, mask like face and difficulty to do any activity.

On the clinical signs, the patient was diagnosed with extrapyramidal symptoms due to haloperidol. The patient was treated with inj. promethazine (phenergan) 25 mg intramuscularly twice daily, T. trihexylpendiyl 2 mg thrice daily. After five days of treatment, symptoms resolved and the patient was stable and improved. Patient consent was taken for publication of the report.

FIG. 1: MUSCLE STIFFNESS IN HAND

DISCUSSION: Haloperidol is a potent dopamine D2 receptor antagonist used in the various psychotic disorders like hallucinations, delusion disorder and schizophrenia [7]. Haloperidol acts on the temporal and prefrontal areas including the limbic system and mesocortical area of brain by blocking the D2 dopaminergic receptor and serotonergic 5-HT2A receptors. The adverse effects of haloperidol include muscle stiffness, parkinsonism, uncontrolled or slowed movements of any part of the body [8, 9]. The prolonged effect of haloperidol may be due to its elimination half - life of 17 to 18 h [10]. Haloperidol, a narrow therapeutic drug is metabolized extensively in the liver. In our case, prolonged EPS symptoms at normal doses of haloperidol may be due to the alcohol dependence syndrome that decreases hepatic clearance. Therefore, the maintenance dose should be reduced in cirrhotic patients [11, 12].

In this case, Naranjio's algorithm[13] was used to determine a plausible reaction due to haloperidol. The following criteria were considered: There were previous conclusion reports on this reaction (+1); the adverse event appeared after haloperidol was administered (+2); adverse reaction improved when haloperidol was discontinued (+1); adverse event reappeared when haloperidol was re-administered (0); alternate causes (other than drug) that could on their own have caused the reaction (+2); the reaction reappeared when placebo was given (0); the drug detected in blood (or other fluids) in concentrations known to be toxic (0); the reaction more severe when the dose was increased or less severe when the dose was decreased (+1); the patient have similar reaction to the same or similar drugs in any previous exposure (+1); adverse event confirmed any objective evidence (+1). Based on the total score of 9, this EPS was categorized as "Definite" reaction to haloperidol administration.

CONCLUSION: Haloperidol induced EPS can last for several weeks to months after stopping of drug. Hence, physicians should evaluate the patient condition regularly to prevent the progression of adverse events, which improves patient condition physically and economically. Primary management includes proper diagnosis, discontinuation of offending drugs, reduction of risk factors and supportive medical management. Instead of using first generation antipsychotics, second generation antipsychotics like clozapine, quetiapine, risperidone, *etc*. which has lowest propensity to cause extra-pyramidal symptoms can be used based on the patient condition.

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CONFLICT OF INTEREST: Nil

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