OLANZAPINE POISONING: A CASE REPORT

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ABSTRACT: Olanzapine is an atypical antipsychotic drug commonly used in many psychiatric illnesses. Many patients take the excess dose of their prescribed medications for intentional self harm. Although there is no specific antidote to Olanzapine over-dosage, early identification and attempt to manage such cases at earliest will restore the consciousness and decrease risk of associated morbidity and mortality. Here we present a case of suicide act of a young girl of age 20 years who was under mechanical ventilator following ingestion of 300 mg Olanzapine. Patient became stable after 48 hours of treatment in Intensive care Unit by psychiatric team. 

Keywords: Olanzapine, Overdose, Poisoning.

INTRODUCTION

Olanzapine is an atypical antipsychotic widely prescribed in several mental disorders for approved indications [1] and in several occasion without any indications especially in developing country settings. It is found that patients having mental disorders particularly mood disorder, substance related disorders, schizophrenia and personality disorders are at increased risk of attempting suicide than the general population [2]. These patients often attempt self harm by taking excess dose of their medication, such as benzodiazepines, antidepressants, antipsychotics, and at times combining various medications [3].

Those patients who took Olanzapine more than 150 mg, majority of them developed agitation, tachycardia, delirium, central nervous system depression, miosis within six hours [4]. Acute Olanzapine poisoning is associated with several laboratory abnormalities, of which more frequent are leukocytosis, hyperglycaemia, hypokalaemia, hyperbilirubinaemia, elevated CPK and hyperprolactinaemia [3]. Moreover, it is often associated with electrocardiographic (ECG) abnormalities such as prolonged QTc, fast supraventricular rhythms and conduction disorders [5]. Olanzapine over-dosage or even a single dose of Olanzapine can be fatal leading to Neuroleptic Malignant Syndrome, however, actual reported deaths due to acute olanzapine over dosage are rare [6].

CASE REPORT

In an attempted suicide, a 20 years old young girl poisoned herself with ingestion of 40 tablets of Olanzapine of 7.5 mg (total 300 mg). She was taken to the emergency department of National Medical College in the state of unconsciousness following restlessness, psychomotor agitation and irritability. She was in the state of deep coma(Glasgow Coma Scale E1V1M1). She also developed hypotension (82/54 mm Hg) and tachycardia (122/min) and watering from both of eyes was present. Systemic examination revealed normal findings except
ophthalmological abnormalities. She had bilateral constricted pupils of approximately 2mm size and normally reacting to light. The patient was mechanically ventilated in ICU.

The complete hemogram, liver function test, thyroid function test, renal function tests, CPK level ABG analysis and electrolytes were normal except mild leukocytosis. Her electrocardiogram did not reveal any significant abnormalities. Brain scanning (CT) revealed normal study. Serum level of olanzapine was not done due to lack of access to toxicological investigation.

Detailed history from family members revealed that she was diagnosed as Psychosis NOS and was under Olanzapine tablets. There was no history of any major medical, surgical and substance abuse. In addition, detailed history ruled out the depressive illness. She was treated with intravenous fluids to maintain her blood pressure. Her vitals were monitored continuously. After the initial six hours, she started showing signs of gradual improvement. Her consciousness and vitals were gradually improved, and mechanical ventilation discontinued after 48 hours. On the same day, ophthalmological examination was reviewed that revealed bilateral normal pupil size and reacting to light. No watering was noted in both eyes. Visual acuity, field of vision, ocular movements and fundus examination were normal.

With improvement she was transferred to Psychiatry inpatient department for further management of psychiatric manifestation. Suicidal precaution was detailed to the family members. She completely recovered after 3 days of admission in Psychiatry in-patient department. She was discharged on 4th day and advised to follow-up regularly.

DISCUSSION

As suicide cases are rapidly increasing among general population, this rate is found higher among people with psychiatric illness [2]. Among psychiatric patients, majority of them attempt suicide by poisoning using their own medications prescribed by doctors. Olanzapine overdose is commonly seen in clinical practice these days [3, 5, 6]. The clinical presentation of Olanzapine overdose is found variable depending upon the ingested dose and other factors [2-6].

Considering our patient, who ingested 300 mg of Olanzapine and developed agitation, hypotension, tachycardia, miosis of both eyes and deep coma with a Glasgow coma scale value of 3. These findings were consistent with similar types of studies finding [3, 4, 6, 7]. Bilateral pupillary constriction and lacrimation was present in our case and local eye pathology was ruled out on ophthalmology consultation. These findings are consistent with Olanzapine overdose and were also present in past studies that diminished in few days of treatment [3, 6, 7]. Constriction of pupil and lacrimation may be seen in Organophosphate compound poisoning, however no other signs and symptoms were suggestive of this poisoning. Moreover detailed history from relatives pointed out towards Olanzapine poisoning.

Laboratory findings present in our study was consistent with other past studies [3,5,8], however some studies findings such as ECG abnormalities [5], and CPK abnormalities [3, 8] were not observed in our case. These abnormalities were commonly seen with increase dose of olanzapine intake [4]. Moreover, positive correlation between Olanzapine overdose and severity of symptoms along with abnormal investigation findings were evident in the past study [4]. It is found that a single dose of Olanzapine may be fatal due to extra-pyramidal symptoms [6], actual death of patients with Olanzapine overdose are rarely reported [3]. Our patient took 300 mg of Olanzapine and this ingested dose falls under moderate to severe fatal dose [4]. In contrast, there are some reports of survival and complete recovery following ingestion of 800 mg [9]. As there is no specific antidote for Olanzapine overdose, the patient was treated symptomatically with intravenous fluid and lipid infusion based on past evidence [10].

The family members neither received any psycho-education from treating doctors, nor were they detailed about suicide precaution in the past. It is mandatory of detailing suicide precaution to family members of all patients as every psychiatric patient are always in high risk [2].

CONCLUSION
Even a therapeutic dose of Olanzapine may be potential danger; overdose may increase risk of fatality. There is need of appropriate assessment and diagnosis in the earliest that would assist in formulating appropriate strategies to manage such cases with available resources.

REFERENCES


