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OLANZAPINE POISONING IN CHILDREN : A CASE SERIES

Pediatrics

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ABSTRACT

Olanzapine is a readily available atypical antipsychotic usually prescribed in adults for psychotic disorders. Olanzapine overdose or poisoning is rarely seen in children. It is often due to accidental intake of drug and sometimes suicidal.We are reporting two case of olanzapine poisoning in children presenting with altered sensorium and pinpoint pupils. The mainstay of treatment of olanzapine poisoning is supportive and symptomatic measures. Both children recovered well and were discharged.

KEYWORDS

Olanzapine, Poisoning, Pin-point pupils.

INTRODUCTION :

Olanzapine is a readily available atypical antipsychotic usually prescribed in adults for psychotic disorders like schizophrenia, mood disorders etc., [1]. Atypical antipsychotic poisonings are rare in children and if present it is often due to accidental ingestion of drugs that are routinely consumed by parents or any family members and sometimes it is also suicidal. Intake of olanzapine can also be suicidal which is mostly found in adolescents. As the use of this drug in adults is increasing, it results in increased accidental consumption of drugs in pediatric age group [2]. Side effects of Olanzapine poisoning include cardiac dysrrythmias [3], agitation, deep coma, blurred vision, myosis, respiratory depression, cardiovascular effects, hypotension, extrapyramidal and anticholinergic effects [2] as well as laboratory abnormalities which includes hyperglycemia, leucocytosis, hypokalemia and raised creatinine phosphokinase (CPK) [4]. We are reporting two children with olanzapine poisoning who had presented to us in our hospital.

THE CASES

Case 1 : A 13 year old female child was brought to us with altered level of consciousness three hours after alleged consumption of four tablets of olanzapine (20 mg). The tablets were being used by her mother routinely for some psychiatric illness. On presentation , child was having a GCS of 9/15 with bilateral pin-point pupils. On examination temperature was 98.4 F, Pulse Rate 130 beats per minute, Respiratory Rate 20 cycles per minute, BP was 102/68 mm of Hg and maintaining oxygen saturation (99%) at room air. On investigation ECG was showing sinus tachycardia and routine blood investigations showed normal total WBC counts, blood sugar, ABG, liver function test and renal function test. Gastric lavage was given and child was started on maintainence intravenous fluids and kept nil per oral along with supportive care. After 4 hours of admission child developed fever of 100.8 F which was symptomatically treated and creatinine phosphokinase (CPK) was sent which was found to be normal. After eight hours of hospitalization child started regaining consciousness with improved GCS, BP improved to 110/70 mm of Hg , pulse rate was 92 beats per minute and pupils were found to be bilaterally reactive to light. Two more fever spikes were noted in the next 12 hours. Psychiatry consultation was taken and she was counseled. She fully recovered by 3rd day and is now on regular follow up.

Case 2 : A 15 year old male child was brought to our hospital with altered sensorium since last four hours. There was no history of fever , vomiting or any seizure activity. On examination GCS was 8/15, temperature was 98.2 F, Respiratory rate was 20 cycles per minute, Pulse rate was 110 beats per minute, BP was 90/60 mm of Hg with bilateral pin-point pupils. Child was started on supportive therapy and gastric lavage was given suspecting OP poisoning . On investigations his blood counts, LFT, RFT, blood sugar, serum cholinesterase, serum calcium and magnesium were normal. CT brain and ECG were also done to look for the cause which were found to be normal. Child regained consciousness after 5 hours and he revealed he had taken 10 tablets of olanzapine (50 mg) which his mother was taking for some psychiatric illness. Child was continued on supportive therapy for 2 days. Later psychiatry opinion was taken and he was counseled and discharged after 3 days. Presently he is healthy and on regular follow up.

DISCUSSION :

Olanzapine is an atypical antipsychotic which is used to treat some psychiatric illness like schizophrenia , bipolar disorder etc., . It is increasingly used these days because of its lesser extrapyrimidal side effects compared to typical antipsychotics [5]. Up until recently olanzapine was not recommended for use in children because of its side effects. However recent studies have suggested than the adverse effects associated with olanzapine use in children is of minor clinical significance [6]. Olanzapine toxicity can lead to side effects like cardiac dysrrythmias [3], agitation, deep coma, blurred vision, myosis, respiratory depression, cardiovascular eff ects, hypotension, extrapyramidal and anticholinergic eff ects [2] as well as laboratory abnormalities which includes hyperglycemia, leucocytosis, hypokalemia and raised creatinine phosphokinase (CPK) [4]. In the study done by Flank et al , it was reported that 78% of children developed sedation, 9% had extrapyrimidal symptoms, 14 % had ECG abnormalities and 7% had abnormal LFT. There were no deaths reported in this study[6]. The toxic dose of olanzapine is 0.5 mg/kg [2]. In the first case the child had consumed olanzapine at 0.6 mg/kg and in the second case the child had consumed at 1.25 mg/kg. in both the cases the children recovered with symptomatic treatment within 3-4 days. There is no specific antidote for olanzapine poisoning and hhence these two cases were treated with supportive therapy. Symptoms of olanzapine toxicity can sometimes mimic OP compound poisoning with miosis and altered sensorium. Hence serum cholinesterase levels were done in the second case to rule out OP poisoning. Kumar JK et al also reprted two cases of olanzapine overdose which presented with altered sensorium and constricted pupils, these cases were treated similarly like us with supportive therapy [7].

CONCLUSION :

Olanzapine is a atypical antipsychotic used for pscychiatric illnesses. Even small doses of olanzapine can cause side effects. Though side effects are seen with even therapeutic doses, death is very rare in olanzapine poisoning. There is no specific antidote for olanzapine poisoning and early diagnosis and supportive therapy is the key towards management of these patients. As its use is widely increasing, olanzapine toxicity should be kept in the differential diagnosis of patients presenting with altered sensorium, pin point pupils and ECG changes.

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