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Acute Clonazepam Poisoning: Seeking Death Or Attention?.

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ABSTRACT

Benzodiazepines are commonly used in toxic doses as a suicidal modality, majorly because of easy availability. Most often, these drugs do not cause much more than excessive sedation and sleepiness. Rarely, however, they may lead to respiratory depression, coma and may even prove to be fatal. This case report highlights a case of clonazepam poisoning, taken as a suicidal measure. The patient was treated symptomatically, and no specific antidotes were given. The patient survived the poisoning despite intake of tablets equivalent to over 20 mg of the drug.

Keywords: Benzodiazepines, Toxicity, Flumazenil, GABA

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INTRODUCTION

Benzodiazepines (BZD) are among the most commonly prescribed drugs that have an addiction potential. Even though there has been a steady rise in the regulatory guidelines concerning opioid drugs (which also have an addiction potential), the same has not been observed with the prescription and dispensing of BZD class of drugs [1]. The most common indications for prescribing a BZD are sleeping difficulties, anxiety disorders and stress. Rare indications include psychotic disorders. Commonly used BZDs include diazepam, lorazepam, clonazepam, etc. Due to easy availability and good tolerance profile of these drugs, there has always been a steady increase in the recreational use of the same. Also, quite frequently, these BZDs are abused in combination with alcohol or other drugs of misuse like cocaine and opioids. The most common age group that abuses the BZDs is the young adult population [2]. However, BZDs are also taken in an excessive dosage as a suicidal attempt, most often by middle-aged females.

Clonazepam is a long-acting BZD with a $t_{1/2}$ of around 24 hours, with onset of action within an hour. It is available for oral dosage, and is commonly used in seizure disorders, acute mania and movement disorders. It is said to be absorbed completely after oral administration. Like any other BZD, clonazepam also augments the action of the inhibitory neurotransmitter, GABA by binding to the GABA_A subtype. A salient feature is that tolerance is said to develop to its anticonvulsant property, making it a less preferred option for the same [3].

BZD poisoning is treated symptomatically and if warranted, with a specific antidote, flumazenil. Flumazenil (given intravenously) acts as a competitive antagonist to BZD by binding to GABA_B, thus preventing the binding of orthosteric and allosteric ligands to the receptors [3].

Case History

A 29-year-old lady with no premorbid conditions allegedly consumed 45 tablets of Clonazepam (each tablet equivalent to 0.5 mg) at around 4 PM on 13-09-2015. Her sister in law who found her lying drowsy, rushed her to a small-scale local hospital after making her drink around 4 to 5 glasses of salt water. The patient was later shifted to our centre from the peripheral setup, as they were unable to get an IV access.

On arrival, she was drowsy, disoriented. She had a heart rate of 116 beats per minute (tachycardia) and BP of 100 / 60 mm of Hg. Her pupils were dilated (but reactive to light) with a positive Doll's eye reflex. Muscle power could not be assessed owing to her drowsiness. She was managed symptomatically with gastric lavage, IV fluids, potassium supplements, antacids and intravenous ondansetron. The patient improved symptomatically.

Once the patient was oriented, a psychiatrist's opinion was sought for. The patient gave a positive history of suicidal thoughts, helplessness, hopelessness, reduced sleep and increased appetite. Her husband who is an alcoholic and a known case of pancreatitis had come home drunk the previous night, which in turn triggered this incident.

She was diagnosed as a case of depression with active suicidal thoughts. She was advised admission under psychiatry but she was not willing. Hence, after a session of psychiatric counseling, she was discharged at request, on oral Clonazepam 0.5 mg BD and oral Sertraline 50mg OD.

DISCUSSION

As mentioned earlier, although BZD poisoning as a suicidal measure is quite popular, most of the candidates survive through the scenario and go back to their routine. Usage of the specific antidote, flumazenil, is usually not warranted unless there is an extreme overdose. However, there are no set guidelines on the quantitative assessment for BZD overdose. Plasma levels can be measured, if cost and time are not constraints. With respect to clonazepam, a plasma level of more than 80 ng/mL is considered to be toxic (therapeutic level ranging between 10 and 50 ng/mL) [4].

Flumazenil is employed in cases of poisoning or overdose, where the patient is pushed to a comatose state. The drug is also said to be effective in cases of mixed poisoning (most commonly, BZDs and alcohol)

[5,6]. In cases where the patient is not in a coma or does not suffer from respiratory depression, symptomatic management is all that is required to bring the patient back to life.

There has been an instance where naloxone, an opioid antagonist, has been used to treat clonazepam poisoning, although the rationale and mechanism are unclear [7]. Also, a case of cyclic coma (alternation of coma with wakefulness) has been reported with clonazepam toxicity [8].

CONCLUSION

To conclude, BZD poisoning, though common, mostly turns out to be non-fatal as the quantity of tablets to be ingested to cause significant respiratory depression or coma is very high. Symptomatic therapy is sufficient in majority of cases, as evidenced in the current case. Plasma level monitoring can be done to guide the clinician in borderline cases. BZD toxicity is also sometimes considered to be a means of non-suicidal self-injury (wherein the suicidal candidate desperately seeks attention from family or friends), especially in adolescents and depressed personalities.

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