Benzodiazepine Ingestion as a Way to Commit Suicide and Related Safety: The Case of an Elderly Patient

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Abstract

Benzodiazepines (BDZs) are widespread psychotropic compounds, often prescribed as first-line symptomatic option by general practitioners in patients with different psychiatric disorders. Sometimes, however, they contribute to delay the administration of the first appropriate psychopharmacological treatment, thus leading to a longer duration of untreated illness in patients with depressive and anxiety disorders. The well-established pros of BDZs use in clinical practice include efficacy, rapidity of action, versatility, and safety. Among the cons, BDZs can provoke cognitive side-effects, asthenia, and misuse/abuse. Although their overall safety has been traditionally viewed as one of their greatest strengths, BDZs massive ingestion for suicidal purposes may pose, in some cases, serious life-threatening conditions, as described in the present case report. Hence, particular attention needs to be paid in prescribing these compounds to special populations, such as elderly patients. Among these, their prescription should be limited to the short-term and particularly monitored in case of risk factors, as they may be unsafe in case of overdose.

Keywords: benzodiazepines; suicide; elderly; hypnotics.

Introduction

Benzodiazepines (BDZs) are widespread psychotropic compounds that have fully replaced previous barbiturates in psychiatric clinical practice and are largely utilized in several medical fields [1]. For instance, BDZs are often prescribed as first-line symptomatic compounds by general practitioners in patients with different psychiatric disorders [1]. Sometimes, however, BDZs contribute to delay the administration of the first appropriate psychopharmacological treatment, being responsible for a longer duration of untreated illness (DUI) in patients with depressive and anxiety disorders [2].

Pros of BDZs use in clinical practice are well-established and include efficacy, rapidity of action, versatility, and safety. However, BDZs can provoke cognitive side-effects, asthenia, and misuse/abuse, just to mention the main culprits.

The overall safety of BDZs, including the case of voluntary overdose for suicidal intention, has been traditionally viewed as one of their greatest strengths, with dosage-response curves having widely demonstrated this issue in clinical pharmacology [1]. Nonetheless, massive BDZs ingestion for suicidal purposes may pose, in some cases, serious life-threatening conditions, as described in the present case.

Case report

A 70-year-old widow male was brought by ambulance to the E.R. of our Hospital, after having been found unconscious by his family members at home, seated on a chair in the dining room with his phone next to him. The patient was then administered oxygen therapy and, as his daughter reported to the paramedics that he used to take BDZs for insomnia prescribed by his general practitioner, he was promptly given Flumazenil intravenously, with poor benefit. The patient lost a son 10 years earlier and his wife 2 years earlier, and since then, he had been taking Alprazolam 0.5 mg/day and Zolpidem 10 mg/day for sleep disturbances and occasional anxiety.

No signs of a potential suicide attempt (e.g., a letter, empty drug boxes, etc.) were detected on the scene. At first, doctors suspected the occurrence of a stroke or a heart attack, given the position of the patient, his right arm possibly paralyzed (not responding to painful stimuli), indicating he apparently had no time to call for help. As he was seen for the last time 5 nights before by his family members, he might have suffered from an acute event and remained in the same position for the following days. Traces of dry vomit and urine were found on his clothes and he showed initial bedsores on his body, suggesting that the cause of his current state should have likely occurred some days earlier.

The patient entered the E.R. in comatose state (Glasgow Coma Scale score 9) and very critical general conditions, especially from a cardiopulmonary point of view. Thus, he was intubated and the diagnostic examination (thoracic CT) pointed to the presence of a pulmonary embolism. Cerebral CT scan and angiography did not document any ischemic and/or haemorrhagic alteration. The lab tests showed significant alterations at different levels, including increased C-reactive Protein, Creatine phosphokinase, and white blood cells, impaired renal function due to dehydration with high levels of creatinine, urea, potassium, and troponin T. Positive BDZs urine levels were found (above the threshold of 900 ng/ml) and flumazenil was administered for the second time, although with no response.

The patient spent the following weeks, two of which under coma, at the intensive care unit. His respiratory and medical conditions gradually improved, leading to extubation. His arm condition had likely been caused by a plexus injury, for having maintained the same posture and body pressure on the left shoulder for such a long time. Subsequent further lab and diagnostic examinations excluded any other acute medical event that would explain what had occurred. Moreover, the subsequent positive urinary BDZs test (exact value: 29200 ng/ml, with a normal range of 30-200 ng/ml) – indicating the exact value – left no doubt about the fact that he voluntarily ingested a dose of BDZs massively higher than that he was supposed to take every night.

After approximately 3 weeks of intensive care unit, the patient woke up from coma and experienced hallucinations and delusional thoughts. Hence, he was moved into the psychiatric unit for a few days and, then, to a general medical unit for 3 additional weeks for medical care. During this second part of his overall hospitalization, his mental and cognitive status showed a complete recovery. He finally reported he had taken approximately 45 blisters of Alprazolam 0.5 mg (for a total of 225 mg) with the intention to commit suicide, 5 days before the intervention of the paramedics. Furthermore, after psychiatric interviews, a diagnosis of major depressive episode with melancholic features emerged to have occurred in the previous months. His psychiatric family history was also found to be positive for suicide, but the patient had no other previous depressive episodes. Sertraline 50 mg/day and Haloperidol 2 mg/day were started when he was in the psychiatric unit. After approximately two months of hospitalization and with improved psycho-physical conditions, the patient was admitted in a long-term rehabilitation clinic, aimed to monitor his overall convalescence and improve his arm function.

Discussion

We find the present case of great clinical interest for different reasons. First, BDZs overdose can be critically dangerous, especially in elderly male population, in which a higher rate of suicidal cases has been documented [3]. In fact, the patient could have been found deceased, if only family members had delayed. Certainly, patient's previous good health condition helped him to survive such a massive dose of Alprazolam. Therefore, despite the well-established safety of BDZs and the widespread augmentation of antidepressants with BDZs in mood disorders [4], particular attention needs to be paid in prescribing these compounds to special populations. In fact, in elderly patients, they may be lethal *per se*, even without the concomitant ingestion of other psychotropic drugs, alcohol or other substances. This kind of danger has been recently pointed out by several reports [5]. As shown by literature, living alone, recent death of family members, and untreated depression represent relevant risk factors for suicide attempts in

elderly population [5], as the present case confirms.

In conclusion, BDZs prescription should be limited to the short-term by general practitioners and particularly monitored in elderly patients with cited risk factors [5], as these compounds may be unsafe in case of overdose.

Compliance with ethical standards

Conflict of interest: we wish to confirm that there are no conflicts of interest associated with the present publication and there has been no significant financial support for this work that could have influenced its outcome.

Informed consent: informed consent was obtained from the patient

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