Thrombocytopenia with quetiapine: two case reports, one with positive rechallenge

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Antipsychotic-induced thrombocytopenia is generally rare, but seems to occur more frequently with quetiapine. Accordingly, the relative risk of thrombocytopenia can be described as very rare with loxapine and clozapine ($< 0.01\%$), uncommon with risperidone ($\geqslant 0.1\%$, $< 1\%$), but very common with quetiapine ($\geqslant 10\%$). However, very few cases are reported in the literature,[1-4] with one published case of idiopathic thrombocytopenic purpura,[1] and it remains unclear whether rechallenge may be considered.

Patient no. 1 was a 78-year-old male hospitalized for depressive syndrome and treated with mirtazapine 45 mg/day, valpromide 1,000 mg/day, and oxazepam 30 mg/day. Quetiapine was added at 50 mg/day, while mirtazapine was reduced to 30 mg/day. Laboratory tests carried out the following day and 5 days after the start of treatment with quetiapine revealed platelet counts of 100,000/mm^3 and 56,000/mm^3 respectively. Two further measurements were obtained, 8 days and 28 days after discontinuing treatment with quetiapine, showing higher platelet levels of 85,000/mm^3 and 120,000/mm^3 respectively.

Patient no. 2 was a 72-year-old female hospitalized for personality disorders with hallucinations and treated with aripiprazole 15 mg/day, clonazepam 0.6 mg/day, valproic acid 1,500 mg/day, furosemide 40 mg/day, lisinopril 20 mg/day, nebivolol 5 mg/day, and amlodipine 10 mg/day. During her hospitalization, aripiprazole was stopped and quetiapine 50 mg/day was introduced. Tests performed 3 months after initiating treatment with quetiapine were notable for a platelet count of 107,000/mm^3. Six days later, a second test was carried out, and the platelet count was down to 95,000/mm^3. Treatment with quetiapine was suspended for 3 days, following which the platelet count went back up to 120,000/mm^3. The psychiatrist reintroduced quetiapine and scheduled a control platelet test 5 days later, which showed a decrease to 84,000/mm^3. In view of this positive rechallenge, quetiapine was discontinued definitively. Fifteen days after quetiapine discontinuation, the platelet count was 123,000/mm^3.

In both situations, no other clinical or iatrogenic parameter seemed to account for the onset of thrombocytopenia. To our knowledge, the second patient described herein is the first case of quetiapine-induced thrombocytopenia with positive rechallenge to be in the literature.

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NBOMe: a new dangerous drug similar to LSD

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A 26-year-old Brazilian woman with a history of club drug use, in addition to cannabis and alcohol use, was referred to a clinic for substance abuse treatment after being found unconscious by security guards at a street party. Upon admission, the patient reported that she started using psychoactive substances when she was 16 years old. At that occasion, she ran away from home and started living with a friend who was a synthetic drug dealer. Motivated by the availability of drugs at a low price, and being in close contact with drug users, she started to increasingly use drugs such as 3,4-methylenedioxymethamphetamine (MDMA). Increased consumption led to increased tolerance, and as a result she started to look for substances with more powerful and longer-lasting effects. Eight months before admission, she started using NBOMe (25I-NBOMe) weekly at electronic music parties, having as many as four blotters per week. While intoxicated, the patient reported engaging in moral and sexual exposure, including being nude and masturbating in public and having unprotected sex with several different partners. After these events, she would not remember anything about the actions, locations or individuals with whom she had been. As she started treatment, she was tested for HIV and had a positive result. A diagnosis of other hallucinogen use disorder – NBOMe (304.50 – F16.20 severe) and conduct disorder (312.82 – F16.20 moderate) was established according to DSM-5 and ICD-11.

There is a growing international concern over the manufacturing and distribution of synthetic analogs of controlled substances as an attempt to circumvent drug

laws and evade interdiction. In fact, the consumption of these substances has become a public health problem in many parts of the world. Controlled substance analogs include a large number of substituted phenethylamines; of these, the NBOMe series, a generic denomination for phenethylamines, has been attracting attention from medical and legal authorities due to the high number of cases of intoxication, followed or not by death – including in Brazil.[1]

This growing class of potent stimulant and hallucinogenic synthetic substances has effects similar to those of LSD and can severely affect the central nervous system.[2] Recreational users of NBOMe refer hallucinogenic and dissociative effects and feelings of euphoria, fear, and paranoia. Effects range from mild to severe changes in cognition, mood and affect, with powerful sensory/somatic effects and mystical experiences.[3]

According to the United Nations Office on Drugs and Crime,[4] substances such as the 2C series (e.g., 2C-I) and NBOMe compounds are present in 17% of the world market of new psychoactive substances. NBOMe drugs have been sold as an alternative to LSD, with the price of a blotter ranging from R$ 30 to R$ 40.[4]

Data on the prevalence of NBOMe use is available from only two subpopulation surveys of individuals attending nightclubs in the United States and England. In the first study, 582 of 22,289 (2.6%) respondents of the 2013 Global Drug Survey reported having used an NBOMe, the most common type being 25I-NBOMe (442 of the respondents, 2.0% of the whole cohort, and 75.9% of those who had used an NBOMe).[2] The second study surveyed 397 clubbers in London in 2013: 11.8% of the interviewees had heard of NBOMe drugs (compared with 96.0% for mephedrone), and 4.8% had used an NBOMe (compared with 76.6% for mephedrone).[2]

To the best of our knowledge, only one Brazilian study has so far been published on NBOMes.[5] In that study, 77 blotters seized on the streets were analyzed; 66.7% of the samples contained one or more types of NBOMes, confirming the growing presence of these novel substances in the market. According to the author, users are often misled to believe that they are taking LSD, when in fact they are taking new, little known drugs like NBOMes or other substituted phenethylamines.[5] The scarcity of research on the topic and the fact that intoxication reactions associated with these drugs are still unknown provide further grounds for concern in clinical practice.

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