Quetiapine-Associated Increase of Triglycerides: A Case Report

To the Editor: Weight gain and elevations of total cholesterol or triglyceride levels are frequent metabolic side effects of second-generation antipsychotics (SGAs). Clozapine, olanzapine, and quetiapine have been associated with moderate increases in serum triglyceride levels, an early sign of impending metabolic syndrome.[1,2] We report on an excessive quetiapine-induced hypertriglyceridemia, validated by reexposure to the medication.

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Case report. Mr A, a 54-year-old male patient suffering from delusions of persecution, formal thought disorder, and marked cognitive and psychomotor impairment, fulfilled the *DSM-IV* criteria of paranoid schizophrenia. Before antipsychotic treatment was initiated, his triglyceride (165 mg/dL) and total cholesterol (207 mg/dL) levels were within normal ranges (body weight = 72.5 kg, body mass index [BMI] = 23.2 kg/m^2). Mr A's symptoms did not respond to olanzapine, zuclopenthixol, or risperidone, but improved with quetiapine (800 mg/d, serum level = 986 µg/L).

After 16 weeks of quetiapine treatment, we observed an excessive increase in his fasting serum triglyceride levels (1,011 mg/dL), while his total cholesterol rose to 313 mg/dL and his body weight rose to 78.5 kg (BMI = 25.3). Alternative causes could not be identified, and after Mr A was switched from quetiapine to amisulpride (800 mg/d, serum level = 341 µg/L), his lipid levels nearly normalized (187 mg/dL, total cholesterol = 218 mg/dL). During day-clinic treatment, he developed a postpsychotic depressive syndrome, and venlafaxine was added without significant changes in triglyceride levels. The patient's psychotic syndrome relapsed 15 weeks after cessation of quetiapine, with delusions, anxiety, and suicidal ideas.

After intensive consultation with Mr A, we reintroduced quetiapine (400 mg/d) and again observed an excessive increase of triglycerides (716 mg/dL) and total cholesterol (306 mg/dL). Faced with the patient's treatment-resistant symptoms and intolerability of quetiapine, we switched his treatment to clozapine, augmented with pregabalin, and added fluvastatin (40 mg/d). He continued to gain body weight (86.9 kg; BMI = 28.1), but his triglyceride levels improved to 459 mg/dL, and his total cholesterol, to 228 mg/dL. The patient's uric acid level was 7.00 mg/dL; fasting serum leptin, 7.6 ng/mL; C-peptide, 1.4 nmol/L; and hemoglobin A_{1c}, 5.9%. The patient's psychotic syndrome was kept in response with combined therapy consisting of clozapine (300 mg/d, serum level = 0.27 mg/L), amisulpride (1,200 mg/d, serum level = 355 µg/L), and pregabalin (300 mg/d, serum level = 2.3 mg/L).

In contrast to reports of moderately increased triglyceride levels with quetiapine,[1,2] we observed an excessive elevation of +512%, quite similar to a recent observation with risperidone.[3] We were able to exclude abnormal nutrition, pathologic leptin levels, or glucose metabolism. SGAs are thought to disturb lipid metabolism via antiserotonergic and antihistaminergic effects, but genetic liability might also be important. Until a more precise understanding might allow individual predictions of drug tolerability, general metabolic monitoring and dietary consultation for patients with psychotic disorders appear indispensable.

References

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