Can melatonin alleviate antipsychotic-induced weight gain?

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Second-generation antipsychotics (SGAs) have been a remarkably effective innovation in psychotropic therapy. Unfortunately, the metabolic effects of these medications—primarily weight gain—present an obstacle to medication adherence. Preliminary studies have suggested that melatonin, a hormone most commonly used as a sleep aid, may help minimize weight gain among patients receiving SGAs.

Modabbernia et al[1] demonstrated positive results from melatonin augmentation in an 8-week, randomized, double-blind, placebo-controlled study of 48 patients with first-episode schizophrenia. Compared with patients who received olanzapine and placebo, those taking olanzapine and melatonin, 3 mg/d, had significantly less weight gain, smaller increases in abdominal obesity, and lower triglycerides. Patients who were given melatonin also had a significantly greater reduction on the Positive and Negative Symptom Scale score.[1]

Romo-Nava et al[2] had similar findings in an 8-week, randomized, double-blind, placebo-controlled trial. Forty-four patients (24 with schizophrenia, 20 with bipolar disorder) who were taking clozapine, quetiapine, risperidone, or olanzapine received adjunctive melatonin, 5 mg/d, or placebo. Patients receiving melatonin had significantly less weight gain (P = .04) and significantly reduced diastolic blood pressure (5.1 vs 1.1 mm Hg; P = .03).

In both studies, researchers hypothesized that melatonin exerted its effect through the suprachiasmatic nucleus—the part of the hypothalamus that regulates body weight, energy balance, and metabolism. Exogenous melatonin suppresses intra-abdominal fat and restores serum leptin and insulin levels in middle-aged rats, partly due to correcting the age-related decline in melatonin production.[3]

Wang et al[4] conducted a systematic review of using melatonin in patients taking SGAs. In addition to preventing metabolic adverse effects of antipsychotics, melatonin also reduced weight gain from lithium.

Early evidence suggests that this inexpensive and relatively safe augmenting agent can minimize metabolic effects of SGAs. It is surprising that scheduled melatonin has eluded popular use in psychiatry.

References

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Disclosure

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