Use of antipsychotic medications by children and adolescents associated with significant weight gain

October 27 2009

Many pediatric and adolescent patients who received second-generation antipsychotic medications experienced significant weight gain, along with varied adverse effects on cholesterol and triglyceride levels and other metabolic measures, according to a study in the October 28 issue of *JAMA*.

Treatment for psychotic disorders, bipolar disorder, and nonpsychotic mental disorders for children and adolescents in the United States often includes second-generation antipsychotic medications. "Increasingly, the cardiometabolic effects of second-generation antipsychotic medications have raised concern. Cardiometabolic adverse effects, such as age-inappropriate weight gain, obesity, hypertension, and lipid and glucose abnormalities, are particularly problematic during development because they predict adult obesity, the metabolic syndrome, cardiovascular morbidity, and malignancy," the authors write. The cardiometabolic effects of these medications have not been sufficiently studied in children and adolescent patients who have not previously received them, according to background information in the article.

Christoph U. Correll, M.D., of Zucker Hillside Hospital, North Shore-Long Island Jewish Health System, Glen Oaks, New York, and colleagues conducted a study of weight and metabolic changes in a group of 272 pediatric patients (ages 4 to 19 years) who had not previously received antipsychotic medication. Patients had mood spectrum (47.8

percent), schizophrenia spectrum (30.1 percent), and disruptive or aggressive behavior spectrum (22.1 percent) disorders. Fifteen patients who refused participation or were nonadherent to medications served as a comparison group. Patients were treated with the antipsychotic medications aripiprazole, olanzapine, quetiapine, or risperidone for 12 weeks.

After a median (midpoint) of 10.8 weeks of treatment, weight increased by an average of 18.7 lbs. with olanzapine (n = 45), by 13.4 lbs. with quetiapine (n = 36), by 11.7 lbs. with risperidone (n = 135), and by 9.7 lbs. with aripiprazole (n = 41) compared with minimal weight change of 0.4 lbs. in the untreated comparison group (n = 15). "Each antipsychotic medication was associated with significantly increased fat mass and waist circumference," the authors write. "Altogether, 10 percent to 36 percent of patients transitioned to overweight or obese status within 11 weeks."

The researchers also found that adverse changes during the study period reached statistical significance for olanzapine and quetiapine for total cholesterol, triglycerides, non-HDL cholesterol, and ratio of triglycerides to HDL cholesterol. "With risperidone, levels of triglycerides increased significantly. Metabolic baseline-to-end-point changes were not significant with aripiprazole or in the untreated comparison group. Patients receiving quetiapine had modestly higher incidence rates of hyperglycemia and the metabolic syndrome and patients receiving olanzapine experienced the highest incidence rates."

The authors note that these results are concerning because they include fat mass and waist circumference, which are associated with the metabolic syndrome in adults treated with antipsychotic medications and heart disease in the general population. "Moreover, abnormal childhood weight and metabolic status adversely affect adult cardiovascular outcomes via continuation of these risk factors or independent or

accelerated mechanisms."

"Our results, together with data from first-episode studies, suggest that guidelines for antipsychotic medication exposure for vulnerable pediatric and adolescent patients naive to antipsychotic medication should consider more frequent (e.g., biannual) cardiometabolic monitoring after the first 3 months of treatment. Finally, in view of poor physical health outcomes and suboptimal metabolic monitoring in the severely mentally ill, the benefits of second-generation antipsychotic medications must be balanced against their cardiometabolic risks through a careful assessment of the indications for their use, consideration of lower-risk alternatives, and proactive adverse effect monitoring and management," the authors conclude.

More information: *JAMA*. 2009;302[16]:1765-1773.

Source: JAMA and Archives Journals (news : web)