Incidence of Heart Failure and Cardiomyopathy Following Initiation of Medications for Attention-Deficit/Hyperactivity Disorder: A Descriptive Study

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Abstract

PURPOSE/BACKGROUND:
Stimulant abuse is associated with cardiomyopathy, but cardiomyopathy rates with therapeutic use of stimulants for attention-deficit/hyperactivity disorder (ADHD) are poorly characterized. Labels for methylphenidate, amphetamine, and atomoxetine caution against use in patients with cardiovascular disease. We sought to assess the incidence of new-onset heart failure or cardiomyopathy among initiators of these medications.

METHODS/PROCEDURES:
Using the Sentinel distributed database, we analyzed new-onset heart failure or cardiomyopathy among initiators of selected ADHD medications (amphetamine products including lisdexamfetamine, methylphenidate, and atomoxetine), by duration of use (0-90, 91-180, 181-270, 271-365, 366-730, and 731-1095 days) and age group (<22, 22-44, 45-64, and ≥65 years).

FINDINGS/RESULTS:
In our sample of 2,012,948 initiators of ADHD medications, 44.6% were female, and 54.1% were younger than 22 years. Heart failure/cardiomyopathy rates in the age groups younger than 22 and 22 to 44 years old were less than 50 per 10,000 person-years, without clear trends by duration of use. The highest rates occurred soon after treatment initiation in the age group 65 years or older, with 1 case per 10.5 person-years of follow-up, or 950 cases per 10,000 person-years, for days 0-90.

IMPLICATIONS/CONCLUSIONS:
Heart failure/cardiomyopathy rates were not higher over 3 years of ADHD medication use compared with shorter-term treatment. In older age groups, lower rates later in treatment could reflect depletion of patients predisposed to the outcome if they develop it soon after starting treatment.