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Prescription Trends of Angiotensin Converting Enzyme Inhibitors (ACEi) and Angiotensin Receptor Blockers (ARBs) as Estimated in the National Ambulatory Medical Care Survey (NAMCS)

Abstract

Background: Hypertension, whether isolated systolic, or combined systolic and diastolic, affects greater than 50% of people aged 65 or older and is the second most common reason for physician visits and medication prescriptions in the United States. The recent discoveries of the deleterious effects of intrinsic angiotensin II (ATII) activity on the cardiovascular system have opened the door for therapeutic agents which block angiotensin II activity in the primary and secondary treatment of hypertension and cardiovascular disease. While not considered first line agents for the treatment of hypertension, angiotensin-converting enzyme inhibitors (ACEi) and angiotensin receptor blockers (ARBs) are used for this indication especially in the presence of heart failure and diabetes mellitus.

Methods: We analyzed the National Ambulatory Medical Care Survey (NAMCS) database for the years 1994-2000 and identified all patients given a diagnosis of essential hypertension. From this patient sample, we then identified patients with comorbid diagnoses CHF or diabetes mellitus. These data sets were then analyzed for ACEi or ARB use.

Results: Hypertension was listed as a diagnosis in an average of 6.7% of patient visits during 1994 to 2000. The percentage of patients in the NAMCS database with a diagnosis of hypertension who were prescribed either an ACEi or ARB showed a steady increase from 20.4% in 1994 to 34.8% in 2000. Diabetes mellitus and hypertension were listed together as diagnoses in an average of 3.8% of patient visits during the same period. The percentage of patients with both hypertension and diabetes mellitus who were prescribed ACEi or ARB was consistently greater than for those patients with hypertension alone, increasing from 28.4% in 1994 to 44.6% in 2000. Patients with a diagnosis of hypertension and CHF demonstrated the highest percentage of ACEi/ARB use with an increase from 35.1% to 46.2% during the years studied. As a percentage of the total ACEi/ARB prescriptions, ARBs showed an increase from 0% to 24.1%.

Conclusion: ACEi and ARB usage for the treatment of hypertension, especially with comorbidities of CHF and diabetes, is increasing. However, the usage of these classes of medications as of the 2000 NAMCS data, fall far short of optimal levels. ARB usage has increased to account for almost one-quarter of the total ACEi/ARB prescriptions.