RESEARCH LETTERS

Trends in First-line Therapy for Hypertension in the Cardiovascular Research Network Hypertension Registry, 2002-2007

Since publication of the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) (December 2002) and Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC-7) (May 2003) guidelines, thiazide diuretics have been promoted as the preferred initial agents for hypertension treatment, especially among patients without compelling indications for an alternative medication class. A few prior studies demonstrated a slight increase in thiazide use shortly following the publication of these data, but the extent to which thiazides continue to be used as a first-line agent in hypertension treatment in current practice is unclear.

The present analysis included patients with incident hypertension at 3 large integrated health care delivery systems. Patients with hypertension were identified by diagnostic codes, electronic blood pressure measurements, or antihypertensive medication dispensings available from electronic health records and administrative databases at each site using a published algorithm. The present study assessed time trends in thiazide use as a first-line agent for hypertension treatment from 2002 through 2007 in the Cardiovascular Research Network (CVRN) Hypertension Registry. We compared thiazide use vs other classes of antihypertensive agents as the initial medication among patients with incident hypertension and without compelling indications (ie, diabetes, chronic kidney disease, myocardial infarction, heart failure) for another class of medication.

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Methods. The CVRN Hypertension Registry includes adult patients with hypertension at 3 large integrated health care delivery systems. Patients with hypertension were identified by diagnostic codes, electronic blood pressure measurements, or antihypertensive medication dispensings available from electronic health records and administrative databases at each site using a published algorithm.

The present analysis included patients with incident hypertension who were started on therapy with antihypertensive medications. Incident hypertension was defined as having a 1 year or longer health plan membership prior to meeting hypertension registry entry criteria, without a prior hypertension diagnosis, and without prior pharmacy dispensing for antihypertensive medication. Pharmacy records include all medications dispensed from health plan outpatient pharmacies or claims filed for medications. All patients included in the analysis had prescription drug coverage, which included no copayment or nominal copayment for most hypertension agents. For combination pills containing thiazides, the combination pill was categorized as a thiazide in the analysis. For other combination pills, the assigned class was based on the first listed medication in the combination.

Results. For patients without compelling indications and who were started on therapy with antihypertensive medications (n = 182,317), mean (SD) systolic blood pressure was 154.0 (15.3) mm Hg and mean diastolic blood pressure was 90.8 (11.6) mm Hg across the study years (Table). In 2002, 41.9% initiated therapy with thiazides, which increased to 56.1% in 2003 (Figure). Thereafter, there was a plateau in thiazide use for several years. In 2006-2007, thiazide use increased again, reaching 61.0% in 2007 (P < .001 for trend in thiazide use). This was driven mainly by the use of combination pills, with thiazide and angiotensin-converting enzyme inhibitor as the most common combination.

Comment. We found that there has been a slow but persistent increase in thiazide use as initial therapy for hypertension treatment among patients without compelling indications for other agents across 3 large integrated health care systems. These findings demonstrate trends in hypertension treatment consistent with current guidelines and mitigate recent concerns about the lack of impact of the ALLHAT study or JNC-7 guidelines.

During the study period, hypertension practice guidelines and algorithms were made available via paper format and/or the Web within each health care system and disseminated through educational conferences. These guidelines were consistent with national guidelines (eg, JNC-7) on hypertension management. In addition, gene
nomic medications were encouraged over brand name medications, but medications representing all therapeutic classes for hypertension treatment were available. Clinicians were encouraged to follow evidence-based practice; however, there was no mandate to use a specific agent in the initial treatment of hypertension.

While the patterns of care observed may not be generalizable to other settings, these 3 health care systems care for over 4 million patients in geographically distinct areas and the patient cohort included a clinically and demographically diverse population, approximately 50% female and 17% African American/Hispanic patients. Our findings of a slow but persistent increase in thiazide use suggest that clinical practice guidelines may have an impact on practice within these health care systems.

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Financial Disclosure: Dr Ho serves as a consultant for WellPoint Inc. Dr Margolis receives research support from Bristol Myers Squibb in the form of an institutional research grant.

Funding/Support: This study was funded by grant U19HL091179 from the National, Heart, Lung, and Blood Institute as part of the Cardiovascular Research Network. Dr Ho is supported by a VA Research & Development Career Development Award (05-026-2).


Clinical and Molecular Evidence for Transmission of Novel Influenza A(H1N1/2009) on a Commercial Airplane

Influenza A(H1N1/2009) has spread rapidly throughout the world by international air travel.1 However, in-flight transmission of the virus has not been well documented. We report 6 cases of influenza A(H1N1/2009) associated with a single flight from the United States to Asia via Europe (“Flight A”) linked by molecular epidemiological data.

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Report of Cases. Five passengers and 1 crew member who had traveled on Flight A presented with acute onset of fever, malaise, cough, sore throat, or rhinorrhea, with the first case presenting symptoms while he was in New York, New York, and the rest within 3 days of the flight’s arrival in Singapore. All were discharged well, without se-