Withdrawal of Clopidogrel in Active Gastric Bleeding

TO THE EDITOR: Sung and colleagues (1) provided important results on a very frequent clinical situation: withdrawal of aspirin in active gastric bleeding. We were surprised by the unusually high incidence of mortality at 1 month (9%). Could this be explained by any other factor related to study design, namely, the withdrawal of clopidogrel? The authors stated that they “did not exclude patients who received clopidogrel in conjunction with aspirin, but [they] discontinued clopidogrel therapy after randomization . . . .” The indications for dual antiplatelet blockade are few and include percutaneous coronary interventions. Discontinuation of therapy with clopidogrel in patients treated with stents (and particularly drug-eluting stents) is associated with a high rate of stent thrombosis and short-term cardiac morbidity and mortality. The authors do not provide the percentage of patients who received dual antiplatelet blockade before randomization or the percentage of patients with a history of coronary stents. In this small trial, the effect of discontinuation of such important medication cannot be ignored.

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Potential Conflicts of Interest: None disclosed.

Reference

IN RESPONSE: In our study, 1 patient in the placebo group, who had triple-vessel disease and percutaneous coronary intervention, took dual antiplatelet agents: aspirin and clopidogrel. This patient stopped receiving aspirin and clopidogrel for the study period and did well. None of our participants who died received concomitant clopidogrel and aspirin before randomization. All patients were taking aspirin, either 80 mg/d or 160 mg/d. Therefore, the increased mortality in the placebo group cannot be explained by the withdrawal of clopidogrel.

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Potential Conflicts of Interest: None disclosed.

Cultural Competency Training and Performance Measures to Reduce Racial Disparities in Health Care Quality

TO THE EDITOR: Sequist and colleagues (1) showed that although cultural competency training and race-stratified performance reports increased clinician awareness of racial disparities in diabetes care, they did not improve clinical outcomes in black patients. Although the primary care providers in the intervention group became more knowledgeable about health care disparities and may have felt “frustrated” that they could not improve the clinical outcomes of their black patients, the authors did not acknowledge the racial incongruity between the patients and the providers and how this may have been a barrier to improved clinical outcomes. A total of 36% of the study patients were black, but only 2% of the providers were.

Increased physician diversity has been shown to improve health care quality for underserved populations, physician–patient communication, and patient trust and satisfaction (2). Patients prefer physicians from their own cultural backgrounds. However, our medical training programs continue to underperform with regard to improving the racial diversity of physicians to mirror the racial diversity of this country. Underrepresented minority medical students are more likely to practice in underserved communities than white students (3). Unfortunately, the percentage of underrepresented minorities enrolled in medical school has remained between 10% and 15% (4), whereas the percentage of underrepresented minorities in the United States will approach 54% in the year 2050 (5).

Betancourt (6) stated that “[c]ultural competence is not a panacea that will single-handedly improve health outcomes and eliminate disparities, but a necessary set of skills for physicians who wish to deliver high-quality care to all patients.” We strongly believe in the benefits of cultural competency training, which should be ubiquitous throughout medical school and residency because it will benefit all medical trainees and, more important, our patients. However, if we do not improve the racial diversity of our physicians, racial disparities in health care quality will continue.

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Potential Conflicts of Interest: None disclosed.

References

TO THE EDITOR: Sequist and colleagues (1) reported that a bundled provider intervention, consisting of cultural competency training and monthly reports of differences in achieving “clinical control targets” for black and white patients, did not reduce disparities after 12

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months. Before conclusions are drawn from this study, the validity of the intervention should be reevaluated.

There is considerable disagreement over the strength of evidence supporting the clinical control targets chosen. The ACCORD (Action to Control Cardiovascular Risk in Diabetes) trial (2), which was ongoing during this study, permitted hemoglobin A1c levels of 7.0% to 7.9% and systolic blood pressure of 140 mm Hg in the control group. Although the systolic blood pressure target of less than 130 mm Hg and the hemoglobin A1c target of less than 7% were adopted by the National Committee for Quality Assurance, they were not endorsed by the National Quality Forum, and the hemoglobin A1c measure was subsequently withdrawn (3). Therefore, these targets may not have been appropriate for many of the enrolled patients; only 35% of whom reported their health as very good or excellent. Furthermore, guidelines from the American College of Physicians (4) recommended that once a lipid-lowering therapy is initiated, patients with type 2 diabetes mellitus should receive at least moderate doses of a statin; however, the guidelines do not specify a target cholesterol level, such as less than 2.59 mmol/L (<100 mg/dL). Without strong evidence that achieving lower thresholds would benefit an individual patient, it is difficult to assess the lack of efficacy of the study intervention.

In addition, the data provided to physicians on their own panels can be considered descriptive at best. In the sample panel provided (Sequist and colleagues’ Appendix Figure 2), 46 white patients and 10 black patients were used to “trend” outcomes. The reliability of report cards based on so few patients is poor (5), which would probably have been demonstrated if the reports included confidence intervals around the point estimates.

Cultural competency is based on the need to tailor patient communication. Similarly, outcomes should reflect the individualization of therapy under conditions of uncertainty. Alternatively, there could be an evaluation of the reasons for clinical inertia for a therapy that is almost always indicated, such as the prescription of statins. Rather than emphasizing achievement of targets that are not based on the highest strength of evidence, future studies should assess the adequacy of risk communication on participatory decision making to evaluate whether differences in achieving certain targets represent disparities in treatment or reasonable choices.

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Note: Dr. Pogach has served on the operations committee of the National Diabetes Quality Improvement Alliance and as Chair of the Diabetes Subcommittee of the National Quality Forum.

Disclaimer: The views expressed are solely those of the author and do not necessarily represent the opinion of the Department of Veterans Affairs.

Potential Conflicts of Interest: None disclosed.

References


IN RESPONSE: We agree with Drs. Wallace and Duffy that increasing the diversity of the physician workforce is an important goal and is a form of organizational cultural competency that may broadly improve health care for minority patients (1, 2). However, long-term efforts to improve the diversity of the health care workforce must be accompanied by targeted efforts to improve the current workforce. Our quality-improvement program, which combined cultural competency training and performance feedback, increased clinicians’ awareness of racial disparities in care. This awareness is the first step to engaging clinicians in eliminating these disparities. However, our data show that improving patients’ outcomes will require more than increasing clinicians’ consciousness and highlighting performance gaps. Effective solutions will require more effective collaboration between all members of health care delivery teams and the communities they serve.

Regarding Dr. Pogach’s comments, our recent analyses (3) suggest that intermediate outcomes of diabetes care, including glycemic, cholesterol, and blood pressure control, can be reliably measured at the physician level on the basis of currently accepted standards. However, we were not using physician-level data for high-stakes purposes, such as public reporting or pay for performance, but rather as an educational tool for internal quality improvement, which reduces the need for strict reliability.

We recognize that debate about the most appropriate targets for diabetes care is ongoing (4). Our clinical trial was implemented before many of these data were published, and we focused on achieving the clinical targets promoted by the delivery organization when our intervention took place. As suggested by Dr. Pogach, we analyzed our outcomes by using less stringent clinical treatment goals (hemoglobin A1c level <8.0%, low-density lipoprotein cholesterol level <3.37 mmol/L [<130 mg/dL], and blood pressure <140/90 mm Hg) and still found that our intervention did not reduce the substantial racial disparities in these measures. We also analyzed additional information beyond achievement of clinical targets, including use of statins, and found that racial disparities persisted despite our intervention.

Our study provides important lessons on systematic quality improvement focused on minority patients. As future solutions to the persistent challenge of racial disparities in health care quality are sought, ensuring that care is individualized to meet the specific needs of each patient may be the most effective approach to achieve optimum outcomes.
Clinical Observation

High-Dose N-Acetylcysteine Therapy for Novel H1N1 Influenza Pneumonia

**Background:** High-dose N-acetylcysteine synergizes with oseltamivir to protect mice from fatal influenza infection.

**Objective:** To show the potential role of N-acetylcysteine in the treatment of novel H1N1 influenza pneumonia in a dose used to treat acetaminophen overdose.

**Case Report:** On 15 July 2009, we admitted a previously healthy woman to the intensive care unit in a Hong Kong hospital for novel H1N1 human swine influenza (H1N1) pneumonia with septic shock and type 1 respiratory failure. She was 48 years of age, was not obese, and was a long-term smoker. She required pressure-controlled ventilation with 100% oxygen, 18-cm H₂O positive end-expiratory pressure, and inhaled nitric oxide at 20 ppm to maintain blood oxygen saturation above 90%. We started treatment with norepinephrine infusion and physiologic doses of hydrocortisone for septic shock. Test results for bacterial co-infection were negative.

We gave the patient oral oseltamivir, 75 mg twice daily, and intravenous antibiotics (vancomycin, taizobactam plus piperacillin, and clarithromycin). The next day, we increased the oseltamivir dose to 150 mg twice daily and started high-dose N-acetylcysteine at 100 mg/kg continuous intravenous infusion daily for 3 days with her husband’s consent.

The patient improved rapidly, with decreased oxygen requirement, resolution of lung field infiltrates, and a decreased C-reactive protein (CRP) level after 3 days of high-dose N-acetylcysteine infusion. We then switched the N-acetylcysteine dose to oral 600 mg twice daily. After cessation of the initial high-dose N-acetylcysteine infusion, she had relapse of fever and an escalating oxygen requirement, from an Fio₂ of 0.35 to 0.85. Results for all sepsis work-ups for nosocomial infection were negative. However, results of real-time reverse-transcription polymerase chain reaction assay of tracheal aspirate for H1N1 remained positive.

We reinstated the same high-dose N-acetylcysteine infusion on day 8. The patient again showed rapid improvement, with decreased oxygen requirement and CRP concentration. After virus eradicated, she had no further symptom deterioration, even after cessation of the high-dose N-acetylcysteine therapy. We discharged her on day 20.

**Discussion:** Influenza virus induces reactive oxygen species that activate nuclear factor κB to produce cytokines (1). Nuclear factor κB signaling is a prerequisite for influenza virus infection and subsequent cytokine storm (2). High-dose N-acetylcysteine, an antioxidant, is synergistic with oseltamivir in protecting mice from fatal influenza infection (3). Long-term oral N-acetylcysteine supplementation, 600 mg twice daily, attenuates influenza symptoms in elderly patients with chronic degenerative diseases (4).

Our patient improved rapidly after high-dose N-acetylcysteine therapy plus antiviral medications. N-acetylcysteine is a category B drug for pregnancy and is an affordable drug with a stable oral formulation. Thus, it would be advantageous for use in pregnancy and in countries with limited resources. We believe the potential role of high-dose N-acetylcysteine in the treatment of future waves of H1N1 or even of the more destructive H5N1 pandemic warrants further investigation, because both viruses stimulate cytokine storm production through generation of reactive oxygen species.

We also showed a close correlation between the decrease in CRP concentration and the clinical course of our patient during high-dose N-acetylcysteine therapy (Figure). Production of CRP is under the direct influence of interleukin-6. Symptoms and fever in human acute influenza infections correlate with the release of interleukin-6 (5). Therefore, CRP can be useful as a biomarker for daily monitoring of cytokine activity in H1N1 infection.

Potential Conflicts of Interest: None disclosed.

References


Addendum and Correction: Screening for Breast Cancer: U.S. Preventive Services Task Force Recommendation Statement

Addendum: On 4 December 2009, the U.S. Preventive Services Task Force (USPSTF) voted unanimously to update the language of its recommendation (1) regarding women younger than 50 years to clarify its original and continued intent. The USPSTF omitted the original first sentence of the recommendation; the recommendation for women younger than 50 years now reads: “The decision to start regular, biennial screening mammography before the age of 50 years should be an individual one and take patient context into account, including the patient’s values regarding specific benefits and harms.”

Correction: The description of the 2001 recommendation of the Canadian Task Force on Preventive Health Care regarding mammography in women between the ages of 40 and 49 years was incorrect and should read as follows:

Current evidence ... does not suggest the inclusion of the manoeuvre in, or its exclusion from, the periodic health examination of women aged 40–49 years at average risk of breast cancer (grade C recommendation). Upon reaching the age of 40, Canadian women should be informed of the potential benefits and risk of screening mammography and assisted in deciding at what age they wish to initiate the manoeuvre. (2)

References

Correction: Another Side to Statin-Related Side Effects

In the Clinical Observation letter by Knoblauch and colleagues (1), the authors are listed in the wrong order. The correct order is:

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