Infective Endocarditis: Should Diabetic Patients Be Treated More Aggressively?

To the Editor:

We read with great interest the recent manuscript by Chu et al., in which several predictors for in-hospital mortality in patients with infective endocarditis were identified. In that study, the authors found diabetes as an independent predictor for in-hospital mortality and speculated an adverse influence of hyperglycemia on immune function as a possible explanation. In-hospital mortality was 32% and 12% in diabetics and nondiabetics, respectively.1 This finding is clinically important, because there are very few data on the influence of diabetes on the outcome of this disease. Taking into consideration the results from this study, it could be hypothesized that diabetic patients with infective endocarditis should be managed more aggressively than nondiabetics, regardless of other clinical features.

We recently published a work focused on the influence of diabetes on the outcome of patients with infective endocarditis, not only during hospitalization but also at long term. As did Chu et al., we found a higher mortality in diabetics both during hospitalization (35% versus 15%) and at 3 years afterward (54% versus 31%).2 However, in our study, diabetes was not an independent predictor for mortality, either during hospitalization or at long-term. We identified heart failure, renal insufficiency, and anatomic complications during hospitalization, and renal insufficiency and age at long term as independent predictors for mortality. Of note, we found that anatomic complications (eg, abscess or pseudoaneurysm) (15% versus 20%) and valve rupture or perforation (8% versus 17%) were not more frequent in diabetics, indicating that infective endocarditis is not more aggressive in diabetics than in nondiabetics. These findings lead us to believe that among patients with infective endocarditis, the presence of diabetes probably should not lead per se to a more aggressive management (earlier surgical intervention).

Raúl Moreno, MD, FESC
Alexis Villate, MD
Carlos Macaya, MD, FESC
Instituto Cardiovascular
Hospital Clínico San Carlos
Madrid, Spain
raulmorenog@terra.es


Response

We appreciate the comments of Moreno and colleagues regarding our recent study.1 These authors cite the results of their analysis of the effect of diabetes mellitus (DM) in infective endocarditis (IE).2 We believe, in fact, that the two studies have a similar message, as the odds ratios for mortality in patients with DM were similar (odds ratio 3.3 versus 2.6, respectively). Although DM was an independent risk factor by multivariate analysis for in-hospital mortality in our study, it was not a statistically significant predictor of short- or long-term mortality in their study. Differences in these results are likely due to differences in size and characteristics of the cohorts and the methodologies of the studies. The prevalence of DM was significantly higher in our cohort (33% versus 9%, respectively), and the mortality rate among these patients was higher (56% versus 31%, respectively). In addition, Staphylococcus aureus was the causative microorganism in a higher percentage of patients in our study. Inclusion of a measure of acute physiology (APACHE II scores) and use of specific criteria for the presence of heart failure represent other important differences between the two studies.

Moreno et al also state that IE is not more aggressive in patients with DM because anatomic and valvular complications were not more frequent in this group. We postulate that there are other possible causes of poorer outcome among patients with DM, particularly complications of sepsis. Our results do not suggest that the presence of diabetes mellitus is an indication for early surgical intervention in IE. Rather, because diabetic patients have a poorer prognosis, they deserve thoughtful consideration for more aggressive management, including intensive glucose control and/or surgical intervention, if indicated.

Vivian H. Chu, MD
Christopher H. Cabell, MD
Daniel K. Benjamin, Jr, MD, MPH, PhD
Erin F. Kuniholm, MD, MPH
Vance G. Fowler, MD, MHS
John Engemann, MD
Daniel J. Sexton, MD
G. Ralph Corey, MD
Andrew Wang, MD
Department of Medicine
Duke University Medical Center
Durham, NC

Infective Endocarditis: Should Diabetic Patients Be Treated More Aggressively?
Raúl Moreno, Alexis Villate and Carlos Macaya

Circulation. 2004;110:e72
doi: 10.1161/01.CIR.0000138899.91219.2E

Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2004 American Heart Association, Inc. All rights reserved.
Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/110/7/e72

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Circulation can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Circulation is online at:
http://circ.ahajournals.org//subscriptions/