

## ENDOCARDITIS SURGERY: NEED FOR A SPECIFIC RISK SCORING SYSTEM

### To the Editor:

The study by Gaca and colleagues,<sup>1</sup> reporting on the outcomes of infective endocarditis (IE) surgery in a selected portion of the Society of Thoracic Surgeons (STS) database population, deserves to be praised for representing the first attempt in the literature to develop a system for operative risk assessment specific for endocarditis.

The need for a dedicated stratification tool, useful both in preoperative patient information and in bedside decision-making processes, arises from the peculiarities of IE surgery compared with general cardiac surgery: Postoperative outcomes may be influenced not only by cardiovascular anatomic and functional issues but also by systemic infective and microbiological factors. One fundamental variable affecting surgical outcome is whether a native or prosthetic valve is involved,<sup>2</sup> mostly because of the differential preoperative risk profiles between these 2 distinct diseases.<sup>3</sup> It is unfortunate that the STS database does not distinguish between native and prosthetic IE; thus, this variable was not considered when developing the proposed score system.<sup>1</sup> Other factors pertaining to the infectious process, including the anatomic picture (presence/absence of vegetations, perivalvular abscess, or mycotic aneurysms) and the microbiological cause, are demonstrated to independently predict outcomes.<sup>4</sup> In addition, these factors were lacking in the regression models of the Duke study.<sup>1</sup>

Consequently, the proposed risk score systems were formed by 13 and 14 risk factors for mortality and composite end point, respectively, that are generic; “active endocarditis” was the sole specific variable included. Indeed, Gaca and colleagues’ system<sup>1</sup> results in being a simplification of the “valvular” STS score system and substantially differs from the

European System for Cardiac Operative Risk Evaluation, the other most widely used tool, for only 3 factors, but not specific for infective valve disease. Both the authors’ score,<sup>1</sup> although with a C-statistic indicating modest discriminating power, and the European System for Cardiac Operative Risk Evaluation, as recently reported by others,<sup>5</sup> consistently demonstrated satisfactory performances in IE prognostic stratification.

We are currently at work on a specific system for preoperative prognostic stratification of native valve IE, accounting, in multivariable analyses, also for infective and anatomic variables. Our preliminary studies (M. De Feo, MD, PhD, unpublished data, 2011) yielded a score system in which critical preoperative hemodynamic condition and renal failure were among the most important predictors of death. As Gaca and coworkers<sup>1</sup> outlined, this is consistent with other generic cardiac surgery risk models. However, 2 of the 6 risk factors ultimately constituting our score system were specific for the IE setting, that is, perivalvular involvement and positivity of the last preoperative blood culture (that indicates unsuccessful or incomplete antibiotic therapy), a variable significantly associated, in bivariate analysis, with positive valve culture, staphylococcal cause, emergency operation, and large vegetations.

The authoritativeness of the authors’ institution in this field is undoubted, and their previous contributions to the knowledge on endocarditis have set the benchmark for us all in the daily clinical approach to this high-risk disease. However, compared with the importance and timeliness of the study purpose, the limitations affecting the regression models underlying Gaca and colleagues’ score<sup>1</sup> constituted an important flaw.

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## LATE POSTOPERATIVE PERICARDIAL EFFUSION

### To the Editor:

We read with interest the article by Inan and colleagues.<sup>1</sup> They have come up with a good double-blind study on a poorly studied but potentially lethal complication after cardiac surgery. They state that postoperative pericardial effusion is multifactorial; however, they have come up with one magic bullet for all the factors. They also fail to tell us the nature of the drained fluid. They had a significant number of patients with mechanical aortic valves who were treated by anticoagulation and are expected to have