We have some concerns about the methodology of their study. The authors retrospectively reviewed their 2002 to 2005 experience in cardiac surgery and investigated the effect of preoperative renal function on intermediate-term survival. The study is retrospective, and patients' data were collected retrospectively. Could the authors obtain the data of all the patients undergoing either type of surgery and include them in the study? If they could not do so, wouldn't this be a bias in patient selection? We are wondering about the method of how the authors replaced the missing variables at the time of data collection. Although sometimes unavoidable, the missing information reduces the analytic possibilities and quality of analysis. How was the follow-up of patients performed? Were patients followed until the date of last report or was the anniversary method or common closing date method used? The percentage of patients with complete follow-up should be stated in the methodology.

The article also is missing data on the "censoring" of the participants when information on time to outcome event is not available because of loss to follow-up or nonoccurrence of outcome event before the end of the trial.

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WHICH PATIENTS WILL BENEFIT MORE FROM OFF-PUMP CORONARY ARTERY BYPASS GRAFTING?

To the Editor:

Off-pump coronary artery bypass grafting (CABG) has been performed in a systematic way since the 1980s. However the benefits observed over the years were not as great as we imagined in the beginning. The initial benefits could be lost in the medium or long term with angina recurrence and the need for repeat revascularization.¹ There are no doubts about the need for specific training for surgeons and for the whole team when performing off-pump surgery. The biggest question right now is: Which patients will benefit more from off-pump CABG?

Polomsky and colleagues² showed, in a recent study, not 1 but 3 interesting and important aspects that aim to reduce the doubts concerning off-pump CABG. Using the Society of Thoracic Surgeons database that contains more than 800,000 patients, they achieved results sufficiently powered to demonstrate significant benefits that other studies—although prospective randomized and multicenter—failed to achieve. These include improved outcomes of off-pump CABG not only in high-volume sites but also among all participating sites (this is probably due to the greater investment by all centers to prepare staff members to perform surgery without cardiopulmonary bypass), reduced morbidity and operative mortality among patients operated on without cardiopulmonary bypass (several authors have been able to demonstrate lower morbidity, but few have demonstrated benefits in mortality), and—most important—the group of patients who experience greater benefit from off-pump CABG. Using the predictive risk of mortality score, they showed that the greatest apparent benefit of reducing morbidity and mortality in off-pump

CABG was in the group with higher predictive risk of mortality score.

In a more modest study published last year,³ our group found similar results. With just more than 1500 patients and using 2 risk scores (one simple [European System for Cardiac Operative Risk Evaluation score] and another that is more complex [2000 Bernstein-Parsonnet score]), we showed lower mortality among patients operated on without cardiopulmonary bypass. We demonstrated that after a certain cutoff (European System for Cardiac Operative Risk Evaluation score >4.5 or 2000 Bernstein-Parsonnet score >17.75) off-pump CABG significantly reduces the chances of operative mortality. However this was not observed among patients with lower surgical risk. Puskas and colleagues⁴ made this same observation.⁴

Classic studies have shown that CABG has its greatest benefit when performed complete and using at least 2 arterial grafts.⁵ For our patients at low surgical risk we keep these 2 goals in mind regardless of whether or not we use cardiopulmonary bypass. With the work by Puskas and colleagues,⁴ our own experience, and now with the data from Polomsky and colleagues,² it is important to reconsider the best approach for patients with higher surgical risk for CABG. Clearly a base is being built with strong scientific evidence that this is the group that experiences the most benefit from off-pump CABG. This evidence allows not using CPB to be the main surgical approach, and complete revascularization and greater use of arterial grafts in patients with high surgical risk as the second plan. The goal is clear: Reduced operative mortality.

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B-TYPE NATRIURETIC PEPTIDE IN CHILDREN UNDERGOING PEDIATRIC CARDIAC SURGERY: JUST A MARKER OF DISEASE SEVERITY STRONGLY RELATED TO AGE OR MUCH MORE?

To the Editor:

We read with interest the article of Radman and colleagues¹ entitled, "The effect of preoperative nutritional status on postoperative outcomes in children undergoing surgery for congenital heart defects in San Francisco (UCSF) and Guatemala City (UNICAR)," recently published in the Journal. We agree with Radman and colleagues¹ that body fat mass and acute and chronic malnourishment are important determinants of worse outcome in children undergoing surgery¹⁻⁴; the relationship of these factors to preoperative B-type natriuretic peptide (BNP) values, however, merits further consideration.

Actually, Radman and colleagues¹ included in their study a wide

spectrum of ages (interquartile range, 3.2-47.1 months) and congenital heart diseases (from simple septal defects to univentricular heart). It has been widely demonstrated that preoperative BNP values as well as postoperative BNP variations should be interpreted as the consequences of 2 major factors: disease severity and age.^{2,3} The influence of these variables is particularly remarkable in the neonatal and infant setting, because neonatal cardiac surgery usually carries a higher surgical risk as a result of the severity of the disease²⁻⁴ and many maturational variations in endocrine function within the first month of life.^{2,3} The cardiac natriuretic peptide system is a relevant component of a complex and integrated network that includes the endocrine, nervous, and immune systems.⁵ For the same age and disease severity, a huge number of biologic substances, environmental factors, and physiologic parameters contribute to BNP response⁵; body fat mass and malnutrition are only 2 factors among these. Unfortunately, the small sample size (only 71 patients) of the study by Radman and colleagues¹ does not allow a risk stratification analysis that includes all these parameters. In particular, low body fat mass and malnutrition, frequently observed in children with more severe cardiac defects,^{1,4} are important factors that contribute to the severity of the disease state and in turn to the rise in BNP values.

In conclusion, recent data support the use of BNP as a useful adjunct prognostic and disease severity marker in children undergoing cardiac surgery. Both preoperative values and postsurgical variations in BNP should be interpreted first according to age and disease severity^{2,3} and only secondarily as the consequence of additional factors, including malnutrition and body fat mass.

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TAVI WITHOUT SURGICAL STANDBY: IS HISTORY REPEATING ITSELF? A WORD OF CAUTION

To the Editor:

Current practice guidelines require that transcatheter aortic valve implantation (TAVI) be performed by a heart team composed of interventional cardiologists and surgeons in a hybrid operating room.¹ The occurrence of a case, treated in a hospital without cardiac surgery on site, in which the implanted prosthesis migrated into the left ventricle and required surgical removal, prompted this report.

A 69-year-old woman underwent TAVI in a facility without on-site cardiac surgery. Shortly after transfemoral implantation, the prosthesis