risk factor for in-hospital mortality by a multivariate analysis.² Reduction of the period for each procedure, as seen in the shorter "CABG proximal" bar in Dr Takagi and associates' strategy, seems to reduce the CPB period. We are, however, afraid that the "CABG distal" bar during the CPB period in their strategy would become much longer, depending on the number of diseased coronary arteries. Recently, cardiac surgeons are seeing more and more elderly patients with aortic aneurysm and multivessel coronary artery disease in civilized countries like Japan where the senior population is growing rapidly. We recommend our strategy especially for elderly patients with comorbidities who can poorly tolerate an elongated CPB time and still require multiple coronary revascularization.

For surgeons who are not fully familiar with the OPCAB technique, here is a tip: The patient is heparinized and cannulated for CPB; OPCAB on the anterior cardiac wall (the left anterior descending and diagonal artery) is performed first; the surgeon, faced with some difficulties in OPCAB on the other wall, initiates CPB to decompress the beating heart and maintain the hemodynamics. The patient has already avoided an unnecessary CPB period.

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Pressure gradient in hemodynamics: Is it measured in units of pressure?

To the Editor:

I read with interest the article on pulmonary banding by Piliuiko and colleagues¹ and the relevant discussion. Piliuiko and colleagues¹ repeatedly expressed values of

the "pressure gradient" across the banded pulmonary artery in units of pressure (milliliters of mercury). They thus committed an inaccuracy common in biomedical scripts. The correct formula for expressing a hemodynamic gradient should be pressure divided by distance (millimeters of mercury per millimeter). Alternatively, the term *pressure gradient* should be replaced with *pressure difference*, the latter being appropriate in this case because the accurate computation of the former may not be easy by conventional angiography.

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1. Piliuiko VV, Poynter JA, Nemeh H, Thomas RL, Forbes TJ, Delius RE, et al. Efficacy of intraluminal pulmonary artery banding. *J Thorac Cardiovasc Surg.* 2005;129:544-50.
doi:10.1016/j.jtcvs.2005.04.027

Reply to the Editor:

I thank Dr Protopapas for the reminder that the strict definition of *gradient* is the rate of change of temperature, pressure, or another variable as a function of distance. In cardiovascular medicine we do, however, commonly use the term *pressure gradient* to describe the difference in pressure between two communicating cardiovascular chambers. Although this latter definition does not conform to the definition of gradient contained in physics textbooks, it is listed without apology in *Stedman's Medical Dictionary*, just a few lines below the formal physics definition of this term.¹ Perhaps primordial physicians selected the term *gradient* to describe drops in pressure across various types of vascular obstructions because it appeared more descriptive and dramatic than the word *difference*. Difference falls rather dull and flat upon the human ear. Whatever the reason, *pressure gradient*, as used in our article,² is a commonly used medical term that I predict will persist because its particular meaning in cardiovascular medicine is widely accepted and understood. I suggest we acknowledge that by virtue of common usage some terms are used in different contexts to mean different things. Our use of the term *pressure gradient* in the context of a discussion on

pulmonary artery bands was clear and unambiguous.

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doi:10.1016/j.jtcvs.2005.05.017

Uses of the leukocyte-depleting filter To the Editor:

I was interested to read Ilmakunnas and colleagues' recent article,¹ in which they showed that the Pall LG6 leukocyte-depleting filter (Pall Biomedical, Portsmouth, United Kingdom) quite clearly does not reduce the activation of neutrophils and monocytes in clinical practice. As they explained, the previous literature on this subject has been quite unclear, with some finding a reduction in inflammatory markers and others finding a marked increase in elastase.^{2,3} My colleagues and I⁴ recently found that the LG6 filter significantly reduces cerebral microemboli detected by transcranial Doppler but also raises serum elastase. The mechanism by which the LG6 filter reduces microemboli is unknown but unlikely to be inflammatory mediated, according to Ilmakunnas and colleagues' results,¹ and is therefore more likely to be a simple physical effect. Although the reduction in microemboli was not accompanied by a significant improvement in neuropsychologic outcome,⁴ the LG6 filter still has the potential for benefit by reducing microemboli.

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