KNOWING THE COST OF CARDIAC SURGICAL COMPLICATIONS: DOES IT REALLY REDUCE THEM OR IMPROVE QUALITY?

To the Editor:

I read with interest the article by Christensen and colleagues¹ about the incremental costs of postoperative hemorrhage in cardiac surgery, a common complication. I agree with the authors that measures to prevent or decrease postoperative hemorrhage are important in cost-effectiveness. In fact, all cardiac surgical complications are associated with substantial added cost, as shown in several articles.²

Cardiac surgery has its own special peculiarities that make it different from any other kind of surgery. It has the widest spectrum of complications, most of them are fatal. With regard to the etiology of postoperative hemorrhage, a great deal is attributable to the vast array of antiplatelet and thrombolytic agents given before surgery by referring cardiologists. Most other causes mentioned by Christensen and colleagues¹ are usually unavoidable.

It is difficult to calculate the exact cost of each individual complication, because complications usually start as one kind and rapidly move on to another in a cascade pattern, ending this vicious circle with multiorgan failure and death. Postoperative renal failure necessitating hemodialysis, prolonged need for ventilation, and mediastinitis are among the most ex-

pensive complications, by far exceeding the cost of bleeding. All these complications deserve preventive measures, but because of their harmful effects on the patients rather than for cost containment.

Avoiding complications is much better than handling and overcoming them. Careful selection of patients who will benefit most with the least trouble is the criterion standard of the ideal patient. Quality improvement in this multidisciplinary and delicate service requires a comprehensive understanding of the basics and details of the surgical procedures, not the incremental costs of complications. Morbidity and mortality can not be "priced" financially, because there is no winner in this deal. Both the patient and the health service are losers. Knowing the added cost will never reduce the complications. Death, the most disastrous complication, is actually the cheapest, with no extra cost to be paid. In a series from my own group,³ lifelong hemodialysis was the most expensive complication, followed by a patient being "stuck" on the ventilator.

The most important feature of cardiac surgery is that only a certain subset of cardiac patients, according to clinical guidelines, will benefit from surgery. All cardiac procedures, except patent ductus arteriosus ligation, are palliative. The ongoing atherosclerosis progression will sooner or later "block" the grafts. Valve replacement, as the name implies, actually replaces one disease condition with another. The concept of "do no harm" must be exercised with every cardiac patient. Health care providers must avoid complications because of this concept, not because of extra cost. Candidates at very high risk who will receive only marginal surgical benefit should not undergo surgery. Cardiac patients must be considered according to the indication and type of surgical procedure and assessed according to the international risk stratification scores. Strict adherence to

evidence-based medicine must be reinforced and practiced by the referring cardiologist, cardiac anesthetist, perfusionist, surgical team, and intensive care staff. A successful cardiac procedure is the outcome of perfect performance by all these team members in conjunction with the previously mentioned patient factors.

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References

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Reply to the Editor:

We naturally agree with Dr Al-Ebrahim that avoiding complications in cardiac surgery is far better than treating them as they occur; however, we believe that some key messages of our research have been misunderstood. Dr Al-Ebrahim states, "Quality improvement in this multidisciplinary and delicate service requires comprehensive understanding of the basics and details of the surgical procedures, and the incremental costs of complications. Morbidity and mortality can not be 'priced' financially, because there is no winner in this deal. Both the patient and the health service are losers. Knowing the added cost will never reduce the complications. Death, the most disastrous complication, is actually the cheapest, with no extra cost to be paid." Although it is correct that morbidity and mortality cannot be priced, the costs of treating medical

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