Reply to the Editor:

Prolonged cardiopulmonary bypass (CPB) is the only solution for resuscitation in some instances in which a patient needs a prolonged period for the recovery and stabilization of mechanical and electrical heart functions. Emergency CPB establishes stable hemodynamics, enables faster recovery of heart functions, and may speed the elimination of the drug and improve detoxication of the body. It can be initiated through a standard median sternotomy. Although percutaneous CPB is a possible alternative, the use of conventional CPB through a median sternotomy is a well-established method for routine cardiac surgery, with a low incidence of complications. It provides excellent possibilities for heart venting and prevents the highly dangerous risk of right and left ventricular dilatation.

Percutaneous cannulation of the femoral vessels instead of the standard transsternal approach poses important advantages, with the opportunities to institute CPB outside the operating room and to begin immediate cardiopulmonary perfusion. Because the cannulas are introduced through femoral vessels, the chest need not be opened. Thus, percutaneous CPB eliminates the possible complications accompanied with a midline sternotomy, such as increased bleeding, wound infection, sternal instability, and postoperative chest pain. However, it includes some disadvantages, such as distention of the cardiac ventricles, damage of the peripheral vessels, ischemic leg complications, and hemorrhage.

In their comment, Massetti and colleagues voted for use of percutaneous insertion of CPB cannulas for prolonged cardiopulmonary resuscitation after severe drug intoxication. To prevent ischemic leg complications that occurred in the first 3 of their 7 patients, they used a separate line for the distal perfusion with a flow of 200 mL/min. However, in some instances percutaneous CPB cannot be applied because of atherosclerotic vascular changes or the small diameter of the vessels. In patients with small femoral vessels, an alternative is cannulation of the iliac vein and the external iliac artery through a suprainguinal incision.

In our patient,¹ a 25-year-old woman with 50-kg body weight, a 1.61-m² body surface area, and small femoral vessels, we decided to use conventional CPB, which allowed better management of all these problems. This therapeutic option should be considered in patients with severe drug intoxication and hemodynamic instability despite prolonged resuscitation, and the route for institution of the CPB should be individually decided.

Miralem Pasic, MD, PhD, FETCS

Roland Hetzer, MD, PhD

Deutsches Herzzentrum Berlin

Augustenburger Platz 1

D-13353 Berlin, Germany

REFERENCE

1. Pasic M, Potapov E, Kuppe M, Hetzer R. Prolonged cardiopulmonary bypass for severe drug intoxication. *J Thorac Cardiovasc Surg* 2000;119:379-80.

12/8/107826

doi:10.1067/mtc.2000.107826