ERRATUM

The following case report by Sunami *et al.* was published in the November issue of the Journal (ANESTHESIOLOGY 2003; 99:1227–9) with a printing error in the first paragraph of the text, and the title page is reprinted here in corrected form. The printer regrets the error.

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Successful Resuscitation from Prolonged Ventricular Fibrillation Using a Portable Percutaneous Cardiopulmonary Support System

Hiroshi Sunami, M.D., Yoshihisa Fujita, M.D.,† Tomoko Okada, M.D.,* Satoshi Wada, M.D.,* Motoko Kimura, M.D.,‡ Atsuo Sari, M.D.,§ Kazuhiro Yoshida, M.D.‖*

TWO cases of ventricular fibrillation (VF) under general anesthesia during noncardiac surgery are presented. Although both patients were refractory to conventional cardiopulmonary resuscitation (CPR), they were rescued using a percutaneous cardiopulmonary support (PCPS) system without any complications. We emphasize the importance of emergency extracorporeal circulation with PCPS as a life-saving measure in prolonged CPR during intraoperative cardiac arrest.

Case Reports

Case 1

A 75-yr-old man was scheduled for gastrectomy under general anesthesia with a diagnosis of early gastric cancer. He had had dilated cardiomyopathy for 5 yr. His medications included an angiotensin-converting enzyme inhibitor, digitalis, and a β-blocker. His physical status was New York Heart Association class II. Preoperative echocardiography revealed mild mitral regurgitation and diffuse left ventricular hypokinesis with an ejection fraction of 34%. Coronary angiography performed 1 month earlier showed mild luminal irregularities in the right and left coronary arteries but no significant stenotic changes.

Anesthesia was induced with midazolam, fentanyl, and vecuronium, and the trachea was intubated. Anesthesia was maintained with sevoflurane–oxygen and nitrous oxide. Radial artery and pulmonary artery catheters were inserted, and their pressures were 120/80 mmHg and 25/12 mmHg, respectively. Ten milliliters 1% lidocaine was administered through an epidural catheter inserted from Th8 to Th9, followed by continuous infusion at a rate of 4 ml/h of a mixture of 40 ml 1% lidocaine and 500 μg fentanyl.

The surgery proceeded uneventfully with stable hemodynamics and arterial oxygen saturation. When the epigastric artery was ligated 1 h after the surgery was begun, however, VF occurred after ventricular extrasystoles. Closed-chest compression was immediately started by the surgeons, sevoflurane was switched off, and the lungs were manually ventilated with oxygen. For resuscitation, 1.0 mg ephedrine, 3.0 mg epinephrine in total, 80 mg lidocaine, and 20 ml sodium bicarbonate were administered. The findings of arterial blood gas/pH and electrolyte analysis during CPR revealed pH 7.41, 29 mmEq/l pCO_2, 477 mmHg pO_2, 131 mEq/l Na, and 4.3 mEq/l K, with a hematocrit of 38%. A peak arterial pressure of 80 mmHg was maintained by closed-chest compression during CPR. The patient could not be defibrillated with direct current shocks despite six attempts (200 J × 3, 300 J, 400 J × 2). The decision to use PCPS was made 25 min after the onset of VF. A 16.5-French, 15-cm perfusion cannula (CX-EB16ASH; TERUMO, Tokyo, Japan) was inserted through the left femoral artery, and a 21-French, 50-cm draining cannula (CX-EB21VSH, TERUMO) was inserted in the right atrium through the right internal jugular vein. Placement of perfusion and draining cannulae was performed using a modified Seldinger technique as follows. After skin preparation and draping, we advanced an 18-gauge needle into the vessels, replaced it with a guidewire, and incised the skin. The percutaneous tract was

* Senior Resident, § Professor, † Associate Professor, § Lecturer, Department of Anesthesiology and Intensive Care Medicine, ‖ Department of Gastroenterological Surgery, Kawasaki Medical School.

From the Departments of Anesthesiology and Intensive Care Medicine and Gastroenterological Surgery, Kawasaki Medical School, Okayama, Japan. Submitted for publication February 12, 2003. Accepted for publication May 28, 2003. Support was provided solely from institutional and/or departmental sources.

Address reprint requests to Dr. Fujita: Department of Anesthesiology and Intensive Care Medicine, Kawasaki Medical School, 577 Matsushima, Kurashiki-city, Okayama, 701-0192 Japan. Address electronic mail to: fujitay@med.kawasaki-m.ac.jp.