The detection of cardiac tamponade by hemodynamic transesophageal echocardiography after left ventriculer assist device implantation

To the Editor,

Hemodynamic Transesophageal Echocardiography (hTEE) is a new technology in the follow-up of postoperative patients in the cardiovascular surgery intensive care units. It can provide bedside, continuously available, direct cardiac imaging by its disposable probe for up to 72 hours and guide treatment by the detection of complications and assessing ventricular filling and volume status (1-3). This is the reason that it is called as hemodynamic.

We present the case of a 61-year-old patient hospitalized with the diagnosis of decompensated heart failure and given diuretic treatment.

Left ventricular ejection fraction (LVEF) was 14%. INTERMACS score was 4 and left ventricular assist device was implanted. The patient was followed postoperatively in the intensive care unit by hTEE. There was no pericardial effusion at 1 hour and minimal effusion at 4 hour. At 10 hour, pericardial effusion showed progression but no constriction. Therefore, imaging was performed hourly. Finally, a progressive decline in arterial blood pressure and cardiac tamponade was detected at 16 hour postoperation and the patient was re-operated. This is the first practice of hTEE after cardiac surgery, and the first report of cardiac tamponade by hTEE in our country.

Postoperative cardiac surgery patients should be followed closely and continuously in terms of mechanical complications and volume status. Early diagnosis of complications is crucial to perform medical and surgical treatment. However, it is usually hard to detect these complications because of the limited echogenicity by transthoracic echocardiography and inability to perform transesophageal echocardiography continuously in the postoperative period (2, 3). hTEE does not have these limitations and can provide early diagnosis and treatment of complications, such as pericardial tamponade, by continuous bedside imaging postoperatively in intensive care units (1-3).

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