Images in cardio-thoracic surgery

Four-dimensional evaluation of implanted mechanical valve with 64-row multi-detector computed tomography

Satoshi Numata*, Hiroki Okada, Hiroto Kitahara, Kohei Kawazoe

Department of Cardiovascular Surgery, Kusatsu General Hospital, 1660 Yabase, Kusatsu City, Shiga 525-8585, Japan

Received 25 December 2006; received in revised form 1 February 2007; accepted 2 February 2007; Available online 6 March 2007

Keywords: Mechanical valve; Prosthetic valve; Computed tomography

This patient underwent aortic valve replacement with 23 mm of On-X® valve and was evaluated with 64-row multi-detector computed tomography (Figs. 1 and 2). Dynamic view (Videos 1 and 2) could allow us to estimate morphological findings of the implanted prosthetic valve more clearly and practically than other modalities.

Fig. 1. The view of On-X valve from ascending aorta in systole and diastole. Surface of the mechanical valve leaflets could be seen clearly without contrast medium. They opened symmetrically and the opening angle of this artificial valve was appropriate.

Fig. 2. The motion of the left ventricle and mechanical valve motion could be evaluated simultaneously.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.ejcts.2007.02.008.