Images in cardio-thoracic surgery

Implanted Jarvik 2000 FlowMaker left ventricular assist device: three-dimensional computed tomography reconstruction

Massimo Bonacchi a,*, Manlio Acquafresca b, Massimo Maiani a, Guido San i a

a Cardiac Surgery, Department of Medical-Surgical Critical Area, University of Florence, Firenze, Italy
b Radiology Service, Department of Diagnostic Images, AOI “Careggi”, Firenze, Italy

Keywords: Left ventricular assist device; Jarvik 2000 FlowMaker; 3-D CT reconstruction

A 45-year-old man with recurrence of acute HF due to end-stage dilative cardiomyopathy, evolving from hypertrophic non-obstructive cardiomyopathy, despite maximal medical therapy and mitral-annuloplasty (Carpentier Physio N 30), underwent a Jarvik 2000 FlowMaker implantation (Fig. 1). Heart transplantation was contraindicated due to severe fixed pulmonary hypertension (11 UW).

Fig. 1. A postoperative computed tomographic scan showed a satisfactory position of the device. The post-implantation 3-D CT reconstruction (multiscan, 64-slice) showed clearly, in different aspects, the LVAD intraventricular position (A), the device's inflow aspect (B) and the outflow graft (C), routing with a 'softly' circuit, reducing the likelihood of kinking, first in left pleural-diaphragmatic space, down to left pulmonary hilus, and after parallel to aorta just to anastomosis side to the first tract of descending aorta (D). The drive line (E) and the prosthetic mitral ring are also visible (F).