Images in cardio-thoracic surgery

Cardiac fusion image from myocardial perfusion scintigraphy and 64-slice computed tomography before and after coronary artery bypass grafting

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A 69-year-old male patient with normal left ventricular function underwent off-pump CABG. Novel cardiac fusion images from dipyridamole stress myocardial perfusion scintigraphy and 64-slice CT demonstrated patent bypass grafts associated with the improvement in myocardial ischemia of the anterior, the apical, and the inferior wall (Figs. 1 and 2).

Fig. 1. Fusion images from dipyridamole stress myocardial perfusion scintigraphy (MPS) and 64-slice computed tomography (CT) constructed before (A) and after (B) the coronary artery bypass grafting (CABG). Stress images of MPS with Thallium-201 showed the improvement in myocardial ischemia of the anterior wall (black arrow head). The grafts, the left internal thoracic artery (LITA) to the left anterior descending artery (LAD) and the radial artery (RA) to the diagonal branch (Dx), were shown to be patent with CT. RCA, right coronary artery; LCX, left circumflex artery; and SVG, saphenous vein graft.

Fig. 2. Fusion images before (A) and after (B) the CABG. CT demonstrated patent grafts, the right gastro-epiploic artery to the posterior descending branch (4-PD) of the RCA and the SVG to the postero-lateral branch (PL) of the LCX. Stress images of MPS with Thallium-201 showed the improvement in myocardial ischemia of the inferior wall (black arrow head) and the apical wall (white arrow head). The fusion images constructed from MPS and 64-slice CT enable the visualization of the coronary artery, the bypass grafts, and the myocardial ischemia at the same time.

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