Regression of a Donor Atheroma After Cardiac Transplantation
Serial Observations With Intravascular Ultrasound

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A 42-year-old man received a cardiac transplantation in October 1995 for dilated cardiomyopathy. He had no history of hyperlipidemia or coronary artery disease. The heart donor was a 41-year-old woman with a history of hypertension. The first intravascular ultrasound (IVUS) study was obtained 14 days after cardiac transplantation, and the last follow-up examination was performed 5 years later. Figures 1 and 2 show a hypoechoic atheroma in the proximal left anterior descending artery that was transmitted from the donor. At this site, serial IVUS imaging demonstrates apparent spontaneous regression of the donor atheroma (Figures 1 and 2). The presence of prominent perivascular landmarks confirms the identical location of IVUS images from both time points. Of note, the regression in atheroma volume is accompanied by new calcification, a process that is thought to represent plaque stabilization. These changes show a dramatic regression in a transmitted donor atheroma after cardiac transplantation and suggest the potential for antiatherosclerotic therapy to regress atherosclerosis in the natural course of native coronary artery disease.

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Figure 1. Reconstructed 3D IVUS images and IVUS still images. The blue lines on the 3D images show the lumen area in each slice. Baseline study is shown on left; images 5 years after transplantation are shown on right.

Figure 2. Sequential IVUS still images matched for the two IVUS examinations. Baseline study is shown on top; images 5 years after transplantation are shown on bottom.
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