Spontaneous closure of a coronary fistula due to cardiac allograft vasculopathy

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A 27-year-old patient underwent cardiac transplantation in 2002 due to dilated cardiomyopathy. The transplanted heart had a large congenital coronary fistula (arrow) from the ramus circumflexus (RCX) to the left atrium (LA), which was regularly surveyed during follow-up by echocardiography (Panel A) and by coronary angiography (Panel B). A percutaneous closure of the fistula was discussed but not performed due to lack of symptoms and excellent clinical status.

The most recent routine coronary angiography surprisingly revealed a spontaneous closure of the fistula (Panel D). The previously enlarged RCX had a normal calibre now, and conversely, the LAD calibre had increased relative to that of the RCX. Intravascular ultrasound of the LAD showed an impressive intimal hyperplasia (Panel C: 1, IVUS catheter; 2, lumen of the LAD; 3, intimal hyperplasia) due to cardiac allograft vasculopathy (CAV).

Cardiac allograft vasculopathy is characterized by diffuse intimal hyperplasia and is the main cause of graft loss and death in heart transplant recipients surviving > 1 year. Coronary fistulas are very rare malformations and spontaneous closure of small fistulas has been reported even less often. In our patient, the fistula was large and we believe that spontaneous closure was due to considerable intimal hyperplasia.

Until better than the actual means against CAV will be found, a conservative approach in the treatment of coronary fistulas is probably warranted in patients after heart transplantation.