Inadvertent left internal mammary artery (LIMA): great cardiac vein anastomosis

Matthew Lumley, Alice Booker, Brian Clapp

DESCRIPTION

A 70-year-old man was transferred due to progressive angina with a history of severe aortic valve stenosis and multivessel coronary artery disease treated with biological aortic valve replacement and two-vessel coronary artery bypass surgery (CABG) 1 year previously. A recent myocardial perfusion scan was positive for reversible ischaemia in the left anterior descending artery (LAD) territory. Invasive coronary angiography revealed moderate stenosis in the left main stem, a significant lesion in the proximal LAD and a small non-dominant left circumflex with moderate disease. The dominant right coronary artery (RCA) was severely diseased (figure 1). The saphenous vein graft to the RCA was found to be patent. The inadvertent left internal mammary artery (LIMA) graft was anastomosed to the great cardiac vein (GCV), and contrast was seen passing through the GCV and draining into the coronary sinus (figure 2; video 1). Transthoracic echocardiogram (TTE) and the right heart catheter revealed Qp:Qs of 1.1:1 and normal right heart volume. He was treated with drug eluting stent percutaneous coronary intervention to the proximal LAD with good symptomatic relief. The iatrogenic arteriovenous fistula was managed conservatively and will be followed up with serial TTEs.

There are over 20 reported cases of iatrogenic arteriovenous fistula.1 2 Presenting symptoms predominantly relate to ischaemia in the territory of the ungrafted artery and include angina, dyspnoea, volume overload and ventricular arrhythmia.1 Volume overload of the right heart is a common finding in congenital fistula but has not been reported in iatrogenic cases.

Inadvertent anastomosis of the LIMA to the GCV is a rare complication of CABG. Treatment should...
depend on the patient’s symptoms and the severity of left to right shunting or development of right ventricular volume overload. Management can be conservative or, by occlusion, percutaneously with vascular plugs and embolisation coils, and if this is not possible, by surgery.

Competing interests None.

Patient consent Obtained.

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REFERENCES