Left Internal Mammary Artery Graft Patency Demonstrated by Bedside Retrograde Brachial Arteriography

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Peripheral arterial contrast injection for visualization of the thoracic aorta has been used in some centers only in children[1,2] because its viability may be questionable in adults.[1] On studying these arteriograms in our institution, we noted that the internal mammary artery (IMA) was always contrasted by the peripheral injection. We decided to test the technique in adults undergoing myocardial revascularization with a left IMA graft. We believe that this procedure has not been previously used for this purpose.

We studied 2 men, aged 37 and 64 years, with previous acute myocardial infarction and disabling angina. They were submitted to left IMA anastomosis to the left anterior coronary artery and a saphenous vein graft to the left circumflex coronary artery. An 18G catheter was inserted preoperatively in the left brachial artery. At about 2 hours postoperatively, a fast 20-ml iodine contrast injection was made through the peripheral catheter in the recovery room, under electrocardiographic and hemodynamic monitoring, with the patient supine. A chest x-ray was obtained just at the end of the injection, using a portable x-ray apparatus, with high kilovoltage in order to permit a short exposure time. In both patients both the anastomotic site and the left anterior descending coronary artery proximal and distal to the anastomosis were well demonstrated.

Retrograde brachial arteriography can be useful at any time postoperatively when it becomes necessary to determine the status of left IMA to descending coronary artery anastomosis.

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1. Kato T, Fujiyama J, Kudeken O, Oyama K, Yoshida Y. *Aortography by radial artery injection in infants with anomalies of the aortic arch. Tohoku J Exp Med 1983;140:171–180.*
2. Ueda K, Saito A, Nakano H. *Aortography by countercurrent injection via the radial artery in infants with congenital heart disease. Pediatr Cardiol 1982;2:231–236.*

Use of Infusion Catheter in Acute Left Main Coronary Arterial Occlusion

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Acute coronary occlusion by dissection or thrombosis during coronary arteriography is a rare but serious complication. The reported incidence of this complication from pooled data is about 0.05%.[1] The incidence and mortality rate in 11,418 patients with normal or minimally narrowed arteries was 0 in a report by the Registry Committee of the Society for Cardiac Angiography.[2] We describe herein a patient with iatrogenic acute left main (LM) coronary arterial occlusion during selective coronary arteriography in the presence of totally occluded right coronary artery.

A 53-year-old man with an old inferior wall myocardial infarction was admitted for cardiac catheterization after 8 weeks of recurrent exertional chest pain and a positive exercise treadmill test response. Catheterization was performed using the femoral approach and 4,000 U of heparin. The left ventriculogram showed inferior wall akinesia and the right coronary artery was totally occluded proximally. Cannulation of the left coronary ostium was technically difficult and required use of multiple catheter designs. The initial left coronary arteriogram revealed a normal LM coronary artery (Fig. 1). During the last 2 left coronary infections, a subtotal obstruction was noted at its bifurcation (Fig. 1). Chest pain developed; the patient became hypotensive and then had asystole. Cardiopulmonary resuscitation was immediately initiated. An FL 4 8Fr guiding catheter was used; a 4.5Fr coronary infusion catheter (ACS) with 36 sideholes on its distal 10 cm was introduced over an 0.018 HTF guidewire and advanced to the middle part of the left anterior descending artery through the defect in the coronary artery in a way that part of the holes of the infusion catheter were in the left anterior descending artery and the other part was in the aorta. Heparin, 5,000 U, was given through the catheter. In the meantime, cardiopulmonary resuscitation was continued.

A repeat angiogram through the guiding catheter revealed good flow to the distal part of the left anterior

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