

Coronary to extra-cardiac anastomosis

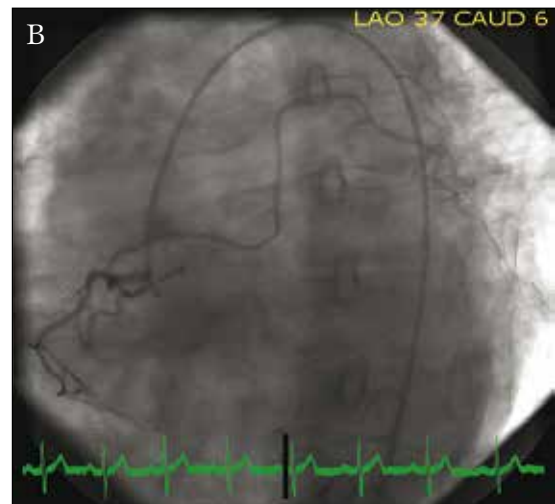
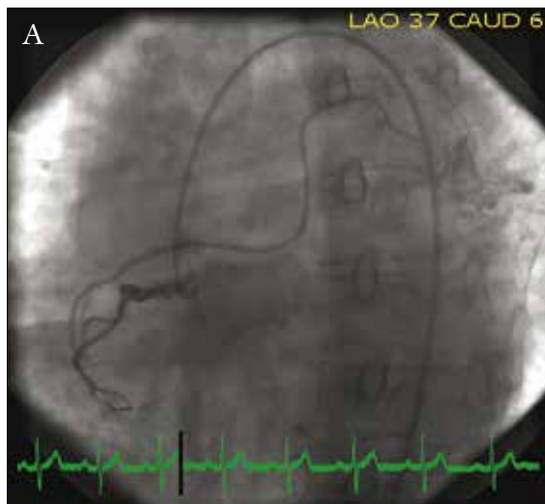
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Keywords: *collaterals, coronary to extra-cardiac anastomosis, coarctation of the aorta.*

We are reporting a rare case of a patient with the right coronary artery giving a large collateral vessel to an intercostal artery in a patient with repaired coarctation of aorta. A 64 year-old man with coarctation of the aorta, surgically repaired at 18 years of age, presented with dyspnea. A trans-esophageal echocardiogram revealed a severely stenotic bicuspid aortic valve.

A coronary angiogram was performed prior to valve surgery. A left anterior oblique caudal cineangiographic view of the coronary anatomy revealed a very long collateral vessel arising from the conus branch of the right coronary artery that appeared to insert into a hypertrophied blood vessel terminating in the left thorax. The distal portion of this vessel exhibited minimal motion with ventricular contraction, and appeared fixed to the chest wall, suggesting this was a prominent intercostal artery (*Figures 1 A, B*).



Figures 1 A, B - Left anterior oblique caudal cineangiographic view of the coronary anatomy revealing a very long collateral vessel arising from the conus branch of the right coronary artery that appeared to insert into a hypertrophied blood vessel terminating in the left thorax. The distal portion of this vessel exhibited minimal motion with ventricular contraction, and appeared fixed to the chest wall suggesting this was a prominent intercostal artery.

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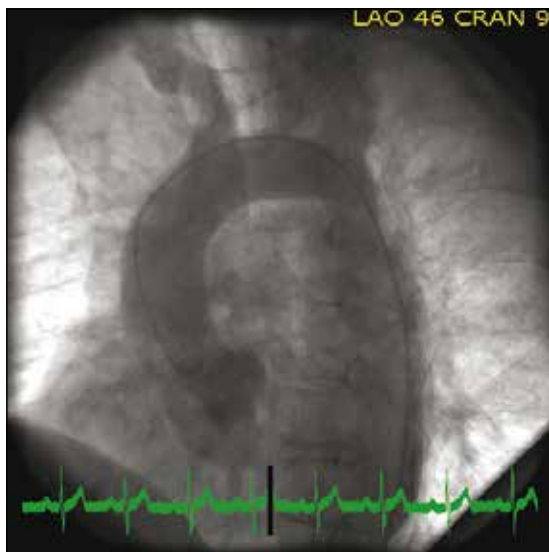


Figure 2 - Left anterior oblique cranial view of the aortic arch demonstrating dilated vessels arising from the arch proximal to the surgically corrected stenosis.

These findings are consistent with clinical history of coarctation of aorta.

The left anterior oblique cranial view of the aortic arch demonstrated dilated vessels arising from the arch proximal to the surgically corrected stenosis (*Figure 2*).

This collateralization is an imperative com-

pensatory mechanism to bypass the stenosis in patients with aortic coarctation (1). Collaterals from the thyrocervical trunk, thoracic arteries arising from the axillary artery and the internal mammary arteries are most commonly observed (2).

Coronary collateral circulation within the heart is a well-known phenomenon (3). Extracardiac-to-coronary anastomosis is gaining more attention (4).

The most common types of extracardiac-to-coronary anastomoses are from the internal mammary artery and the bronchial arteries. Both typically occur in the presence of a chronic occlusion of a coronary artery.

To our knowledge this is the first reporting of coronary-to-extracardiac anastomoses.

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Cite this article as: Mohsen A, Loughran J, Ikram S. Coronary to extra-cardiac anastomosis. *Heart, Lung and Vessels*. 2014; 6(3): 208-209.

Source of Support: Nil. **Disclosures:** None declared.

