Severe coronary vasospasm in the catheterization laboratory

Mark Osten MD, Peter Seidelin MD

In 2005, a 50-year-old woman with a history of migraines, hypertension and type 2 diabetes underwent three-vessel coronary artery bypass graft surgery for symptomatic ischemic heart disease. In 2006, she had two percutaneous coronary interventions for severe stenotic lesions immediately distal to the site of the graft anastomosis in both her left anterior descending artery and her ramus branch (Figure 1A). Four months later, she was admitted to the hospital for recurrent chest pain. Her cardiac enzymes were normal. Her electrocardiogram was unchanged from a previous one, which showed anterolateral ST and T wave abnormalities consistent with myocardial ischemia. Selective coronary angiography showed diffuse, severe coronary artery vasospasm involving both her

native vessels (Figure 1A) as well as the right and left internal mammary artery bypass grafts (Figure 1B). Following 200 µg of intracoronary nitroglycerin administration, the vasospasm resolved and revealed patent native and graft anatomy (Figure 1B). She was subsequently treated for variant (Prinzmetal's) angina with a combination of oral nifedipine, diltiazem and nitrates.

Variant angina is an infrequent cause of myocardial ischemia, but should always be considered in the differential diagnosis of chest pain in the context of younger patients and a history of vasospastic disorders. In the present case, coronary revascularization could have been avoided if this diagnosis was considered at the time of the initial cardiac investigations.

Figure 1) A Left coronary angiogram before intracoronary nitroglycerin, showing diffuse, severe native coronary artery vasospasm with a coronary stent visualized in the intermediate branch (arrowhead). Note the absence of graft anatomy. **B** Left coronary angiogram following intracoronary nitroglycerin, showing resolved vasospasm, with patent native anatomy, as well as patency in the right (white arrow) and left (black arrow) internal mammary artery grafts. Note: Magnification, angles, table and gantry height are the same for each angiogram

Division of Cardiology, Interventional Cardiology Program, University Health Network, Toronto General Hospital, Toronto, Ontario
Correspondence: Dr Mark Osten, University Health Network, Toronto General Hospital, Division of Cardiology, 200 Elizabeth Street, Toronto, Ontario M5G 2C4. Telephone 416-301-7601, fax 416-544-8395, e-mail mark.osten@uhn.on.ca
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