CARDIAC CATHETERIZATION

PREOPERATIVE DIAGNOSIS: Coronary artery disease.

POSTOPERATIVE DIAGNOSIS: Two-vessel coronary disease with ejection fraction of 50% to 55%.

PROCEDURES
1. Left heart catheterization.
2. Left ventriculogram.
3. Coronary angiography via the right femoral artery.

INDICATIONS: This is an elderly male with atrial flutter, no significant chest discomfort but did feel "not normal." He presented to the hospital and workup was unremarkable. He was admitted. Echocardiogram showed cardiomyopathy, ejection fraction of 50% with global hypokinesis. He underwent cardioversion and now a cardiac catheterization was recommended to further investigate his cardiomyopathy. The patient had a normal nuclear stress test earlier this year. Risks and benefits were explained, including the possibility of death. Informed consent was obtained.

DESCRIPTION OF PROCEDURE: After the patient arrived in the cardiac catheterization lab, prepped and draped in a sterile manner, the right groin was anesthetized with 1% plain lidocaine. Using a large-bore needle a single-wall puncture was made with entry into the right femoral artery. Through this needle a guidewire was inserted into the right femoral artery, the needle removed, and then a hemostatic sheath with its dilator was advanced over the guidewire into the right femoral artery. The guidewire and the dilator were removed. The hemostatic sheath was then flushed with normal saline. After this the pigtail catheter was inserted with its guidewire through the hemostatic sheath and passed into the left ventricular cavity. This guidewire was then removed and the pigtail catheter was connected to the injection system. Left ventricular pressures were obtained.

After this the left ventriculogram was obtained in the standard right anterior oblique view. The drawback pressure was obtained, pulling the pigtail catheter back from the left ventricle across the aortic valve into the aortic root. The injection system was disconnected from the pigtail catheter and a guidewire inserted into the catheter. The catheter was removed, leaving the guidewire in place. The left coronary catheter was advanced over the guidewire to the aortic root. The guidewire was removed and then the left coronary catheter connected to the injection system.

The left main ostium was next engaged with the catheter, and multiple injections of the left coronary system were obtained in the RAO caudal, RAO cranial, LAO cranial and LAO caudal

views. At this time the injection system was disengaged from the catheter, a guidewire inserted up the catheter, and the left coronary catheter removed, leaving the guidewire in place.

The right coronary catheter was then advanced over the guidewire up to the aortic root, the guidewire removed and the right coronary catheter attached to the injection system. The catheter was then engaged into the right coronary ostium and LAO cranial and RAO views were obtained. The injection system was then disconnected from the catheter, the guidewire was advanced up the catheter, and the catheter and guidewire removed intact. The injection system was then attached to the hemostatic sheath and an injection was made of the right iliac artery.

FINDINGS

1. The left heart systemic blood pressure was 132/74 and left ventricular end-diastolic pressure 19 mmHg. There was no significant transaortic gradient.
2. Left ventriculogram demonstrated mild global hypokinesis with ejection fraction 50% to 55%. There was no significant mitral regurgitation. The aortic valve appeared normal.
3. The left main had 15% to 20% distal narrowing before bifurcating to a left anterior descending artery and left circumflex system. The left anterior descending had a discrete 90% mid left anterior descending lesion at the takeoff of a small second diagonal. The remainder of the left anterior descending was free of focal stenosis. The left circumflex was a large vessel with a 30% smooth, discrete narrowing in the proximal portion before giving rise to the principal marginal, then continued on in the atrioventricular groove, giving off left posterolateral branches. Other than the lesion in the proximal left circumflex system, the remainder of the left circumflex and its posterolateral branches were free of focal stenosis. The right coronary artery was only a modest-sized vessel, supplying the posterior descending artery. There was no focal stenosis in this system.

RECOMMENDATIONS: Percutaneous coronary intervention of the left anterior descending. I will discuss the case with the patient's cardiologist.