

## **Ostial Stenting and Restenosis**

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Ostial stenosis may involve the ostium of the left main coronary artery or the ostium of the right coronary artery. However, interventional cardiologists have also used the term “ostium” to refer to the left anterior descending and left circumflex coronary artery opening. We have observed ostial stenosis more frequently in the RCA than the LM, which occurs either from atherosclerotic disease or from inflammatory diseases of the ascending aorta. On sectioning the left main coronary artery for the presence of atherosclerosis, we have observed >65% stenosis in 14 cases, and of these 2 had thrombi. Coronary bifurcation lesions had been sectioned longitudinally to evaluate the site of atherosclerotic accumulation. We report atherosclerotic fibroatheroma, with a well-developed necrotic core and a thin fibrous cap opposite the flow divider with sparing of the flow divider. However, when there is plaque build up proximal or distal to the necrotic core, it occurs from the propagation of the thrombus and organization of the thrombus and not from the atherosclerotic processes.

From our >300 case registry of stented human coronary arteries studied at autopsy or surgically removed, 5 ostial left main coronary artery stent cases were found. Of these 2 had rotoblator prior to stenting, and all had balloon angioplasty prior to stent placement; 4 died within 3 days of stenting and 1 lived > 6 months following stenting. Pathologic cause of stent failure was due to excessive thrombus in 2 from excessive wall injury from rotoblader or balloon, one had thrombus embolization into the bifurcation of the left main and minimal underlying disease, and one had severe distal disease (>80% narrowing). The one patient with severe ostial stenosis >90% post-LM stenting died 1 day following repeat balloon angioplasty due to acute arterial thrombosis. Morphologic findings of stenting of the ostium of the RCA, LAD and LCx will be presented,