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Two cases of coronary ostial stenosis after Aortic Valve Replacement

Coronary ostial stenosis is a rare but serious complication of aortic valve replacement (AVR). The incidence of this complication has been estimated between 0.3% and 5% of all AVR. We report two cases of coronary artery ostial stenosis after AVR. Case 1: A 60's male was performed AVR with a 18-mm mechanical valve for severe aortic stenosis. Preoperative CAG showed normal coronary arteries. Seven months after AVR, he suffered from chest pain and was diagnosed acute coronary syndrome. Emergency CAG revealed 90% stenosis of left main trunk. Under intra-aortic ballon pump assistance, he underwent a PCI. Case 2: A 70's male was referred to our hospital for congestive heart failure. His echocardiogram showed severe aortic regurgitation and CAG demonstrated multi-vessel disease (#7 90%, #13 75%, #15 90%). He underwent AVR with a 23-mm bioprosthetic valve and coronary artery bypass grafting. Postoperatively, CAG revealed ostial 99% stenosis of the RCA that was not recognized before the operation. PCI was performed and good clinical results. Some pathophysiologic mechanisms of coronary ostial stenosis after AVR have been reported; mechanical vessel trauma or local vessel wall hypoxia, for example. In our cases, myocardial protection was achieved by antegrade intermittent injection of blood cardioplegia. Both main coronary vessels were perfused using a soft silicon tip. Intravascular ultrasound showed relatively homogeneous intimal fibrous thickening in culprit lesions. We considered that coronary ostial stenosis in our cases were due to mechanical vessel trauma producing by selective coronary perfusion. We reported two cases coronary ostial stenosis after AVR.