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When it is Hazardous to Utilize an Internal Mammary Artery for Coronary Revascularization in Patients with Severe Peripheral Vascular Disease!

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Background: The use of the internal mammary arteries for coronary revascularization has become the standard of care in coronary artery bypass grafting (CABG). However, in patients with aortoiliac disease, the internal mammary arteries may become a major collateral route to the lower extremities. This study aimed to characterize the clinical and angiographic characteristics of patients with collateralization from the internal mammary artery to the iliac artery.

Methods: We have collected 15 cases of patients admitted for diagnostic coronary angiography in whom we observed collateral flow from one or both internal mammary arteries to an occluded or stenotic iliac artery.

Results: The mean age was 63.2 ± 11.2 years; 8 were men (53.3%). Coronary angiography was done as a peri-operative evaluation for peripheral vascular surgery in 3 patients (20%) and was done because of cardiac symptoms or a positive thallium scan in 2 (80%). The finding that the mammary artery collateralized the iliac artery led to major treatment changes in all patients 7 (46.6%) who required CABG. In 5 patients (33%), use of one or both internal mammary artery(ies) for coronary grafts was avoided. In one patient, CABG was deferred and in another patient, percutaneous intervention in both iliac arteries preceded CABG using both mammary arteries. There was no incidence of post-operative acute lower extremity ischemia.

Conclusions: Selective angiographic visualization of the internal mammary artery is an essential part of the pre-operative evaluation in patients with severe peripheral vascular disease undergoing CABG.