

# **Endovascular Treatment for Peripheral Arterial Stenosis**

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Atherosclerotic arterial disease is a major health issue in the developed countries. The manifestation of atherosclerotic arterial disease is dependent on the involved vascular territory, and may be easily overlooked clinically. Adequate screening and diagnostic tests are often confusing to general practitioners. Risk factor modification and anti-platelet agents are the basic management once the diagnosis is established. Further treatment may require surgical procedures, but often limited by high operative morbidity and mortality. Endovascular intervention is a promising alternative, especially in patients with prohibitive surgical risks.

Cervical carotid and vertebral artery stenosis leads to ischemic stroke. Patients with history of stroke, TIA, VBI, or neck bruits should be examined with neck ultrasound. Once severe stenosis is suspected, angiography is the diagnostic tool of choice. Endovascular stenting provides excellent results in terms of safety and efficacy, comparing to surgery.

Suclavian and innominate artery stenosis is easy to detect by blood pressure measurement on both arms. Clinical presentations include ischemic symptoms of posterior fossa or upper limb. Vertebral or coronary subclavian steal syndromes are also possible. Endovascular treatment of simple balloon dilatation or stenting is considered as the first-line therapy with great results.

Renal artery stenosis is the most often ignored peripheral artery stenosis. The clinical manifestations include renovascular hypertension and ischemic nephropathy. Non-invasive diagnosis can be made by Duplex ultrasound and Captopril renal scan. Surgical treatment is very difficult and technically demanding. Endovascular treatment is the preferred treatment of choice by most of the experts.

Visceral artery, including celiac and mesenteric, stenosis leads to bowel ischemia, which is very difficult to diagnose and often occur in patients with advanced atherosclerosis. While surgery in these patients may be extremely risky, endovascular therapy is a reasonable but unproved first line therapy.

Lower limb artery stenosis may be presented as acute ischemia with threatened limb loss, or chronic claudication and ulcer. Vascular ultrasound with ABI measurement is the most important non-invasive tool. Endovascular intervention is the treatment of choice, especially when the stenosis is located proximally and discrete.

As the population continues to age in Taiwan, the prevalence and disabling effect of peripheral artery stenosis will increase in the future. Physicians should be more aware and knowledgeable about this unique disease entity and its versatile manifestation. As the available treatment options are expanding, efforts should be taken to provide the patients with less invasive and more effective therapy aiming at functional restoration. Concurrent lesions in different vascular territories make a global approach mandatory, and multidisciplinary cooperation is essential to optimal management.