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The Point on Lower Extremity Artery Disease

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Editorial

Lower Extremity Arterial Disease (LEAD) has been understudied and underrecognized compared with other atherosclerotic diseases such as myocardial infarction and stroke. The lack of awareness has led to underdiagnosis and undertreatment of LEAD in the United States and around the world.

LEAD affects over 40 million people in Europe and appears to be 2 to 4 times more prevalent in people with Type 2 Diabetes (T2D) than in the general population.

Although the prognosis of LEAD is relatively benign, all patients with LEAD are at increased risk of other atherosclerotic diseases as myocardial infarction, ischemic stroke and cardiovascular death. Several studies indicated a two-to-three-fold greater mortality in patients with LEAD with a five-year mortality around 30% to 40%.

LEAD prevalence and incidence in T2D are strongly associated with the classical cardiovascular risk factors (tobacco smoking, sedentary, obesity, hypertension, dyslipidemia) and diabetes duration.

Early detection of LEAD, before the onset of symptoms is mandatory, mainly in case of DM and highly wanted to prevent the occurrence of diabetic foot.

International guidelines suggest to perform an exhaustive interview including history of decreasing walking speed, leg fatigue, and claudication as well as a clinical evaluation of the vascular status.

To grade LEAD presentation, the guidelines recommend to use the Leriche and Fontaine or Rutherford classification.

A simple, non-invasive and inexpensive tool for LEAD diagnosis is the Ankle-Brachial Index (ABI) able to indicate the occurrence of LEAD. In high-risk patients such as smokers, hypertensives and diabetics, determination of ABI should be routine practice together the clinical evaluation of subjects. In case of positive ABI, duplex ultrasound, computed tomography angiography, or magnetic resonance angiography of the lower extremities are useful to finalize the diagnosis.

The non-pharmacological management of LEAD patient is the basis of the treatment reducing the cardiovascular risk, improving prognosis, and better patients functioning. Modification of the risk factors profile may contribute to the reduction of the severity and progression of atherosclerosis as well as to a delay in the onset of complications.

The non-pharmacological management for all types of atherosclerotic disease is mostly related to lifestyle modification, such as smoking cessation, improved physical activity and loos of body weight. Smoking cessation is recommended in all LEAD patients.

In patients with intermittent claudication the walking exercise is the most effective, non-invasive therapy for improving maximal and pain free walking distances. Both home-based and supervised treadmill walking exercise have been shown to improve pain-free and maximal walking distance in LEAD.

Any class of antihypertensive drugs can be used to treat hypertension in most patients with LEAD, including beta blockers.

The lipid-lowering therapy with a controlled dose of statin or ezetimibe combined with PCSK9 inhibitor is recommended to reduce the atherosclerotic risk.

Lipid profile analysis should be performed in LEAD patients and repeated at least once a year to assess the achievement of target LDL-C level. In addition, the assessments at 6 to 8-week intervals are suggested when treatment has to be modified to reach the target or treatment.

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Antiplatelet drugs represent one of the basic options for the management of patients with atherosclerotic diseases. Aspirin is the oldest and most often prescribed antiplatelet drug. The aspirin seems most effective in coronary patients with clinically-unstable disease, while its efficacy is uncertain in LEAD patients.

Clopidogrel and ticagrelor were shown to be more effective than aspirin. The new antiplatelet drugs prasugrel, ticagrelor and picotamide seem to be more effective than aspirin in LEAD patients, particularly in diabetic patients. A novel antagonist of Protease-Activated Receptor (PAR)-1, seems useful in patients with atherosclerotic diseases and in those with LEAD.

Anticoagulants and low dose of anti-platelet drugs are used in LEAD patients to prevent ischemic incidents within the lower limb as well as to prevent generalized atherosclerotic events.

After open by-pass surgery of lower limbs, the regimen of clopidogrel or, if the risk of bleeding is acceptable, ASA with rivaroxaban may be used but not longer than a month.

Following endovascular interventions for patients with LEAD, the regimen of dual antiplatelet therapy is recommended for at least one month after intervention regardless of the stent type.

Long-term treatment can be carried out using ASA + rivaroxaban 2 mg × 2.5 mg regimen, but only in the group of patients without an increased risk of bleeding. In case of high risk of bleeding clopidogrel alone is recommended.

Three component therapy consisted of ASA, rivaroxaban with clopidogrel is also possible, but only in selected patients.