The ankle-brachial index as a tool for detecting clinically significant atherosclerosis: a case report

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Introduction: Peripheral arterial disease (PAD) is characterized by the atherosclerotic narrowing of the peripheral arteries, most commonly affecting the blood vessels of the lower extremities.[1] The Ankle-Brachial Index (ABI) is the first non-invasive test and screening method in diagnosing PAD. ABI ratios between 0.90-1.40 are considered normal for adults, while ratios less than 0.90 and higher than 1.40 indicate the presence of PAD.

Case report: 67-year-old patient was referred by a cardiologist for ergometric testing due to chest discomfort during greater exertion. He has type 2 diabetes mellitus, occasionally measures an elevated blood pressure but has not been on medication and has been a smoker for 36 years. His laboratory results showed LDL levels of 3.5 mmol/L. He takes oral antidiabetic medications. During the ergometric test at the second level of exertion, he complained of severe pain in both calves, and soon afterward experienced pressure in his chest, with visible changes on the ECG, which brought the test to a halt. Given these symptoms, the physician recommended myocardial scintigraphy and ABI testing. The ABI index was 0.4 on the left and 0.6 on the right. The patient was referred for a Doppler ultrasound of the leg arteries, which confirmed moderate atherosclerotic changes in the femoral arteries and occlusion of the tibial arteries in the lower legs. The myocardial scintigraphy detected ischemia, and the patient was referred for an invasive coronary angiography, which confirmed significant narrowing of the LAD and placement of a stent. In addition to his previous diabetic therapy, the patient was started on antihypertensive, hypolipidemic, and dual antiplatelet therapy. Nursing education was provided regarding lifestyle changes, including dietary modifications, introducing daily walks of at least 30 minutes, and mandatory cessation of smoking.

Conclusion: The ABI confirmed peripheral arterial disease and directly categorized the patient into a high cardiovascular risk category. We can conclude that measuring the ankle-brachial index is a useful and reliable method for detecting PAD. The nurse plays a significant role in performing the ABI diagnostic method and educating patients about healthy lifestyle habits.

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LITERATURE

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