Streszczenie w języku angielskim

Lower limb arterial disease (LEAD) is most commonly caused by atherosclerotic lesions. Some patients present with the typical symptoms of claudication, but a large proportion of patients, especially in the early stages of the disease, present with atypical symptoms or are completely asymptomatic. LEAD increases the cardiovascular risk of patients, regardless of the presence of symptoms. The measurement of the ankle-brachial index (ABI) is used as an initial test in the diagnosis of LEAD. The traditional method of measuring ABI uses a Doppler probe, which requires staff training before its introduction into clinical practice. In addition, the patient should rest before the traditional measurement is performed. Automatic ABI measurement devices offer the possibility of performing the test without lengthy staff training, and some of them also reduce the time required to perform the test.

This paper presents data on the prevalence of LEAD in the general practice population, as well as the prevalence of typical LEAD symptoms, concomitant diseases and risk factors in these patients. A comparison between traditional measurements and automated measurements carried out by plethysmography using the Dopplex Ability (Huntleigh Healthcare) is also presented. An analysis of the available literature comparing automated and traditional ABI measurements is presented.

290 patients of primary care practice over 50 years of age were examined. 75.3% of the population were female, 24.7% male. The population showed 71.7% of smokers and 73.7% of patients with abnormal BMI. In the population studied, 16.8% of patients had abnormal ABI level in the traditional measurement method, which was diagnostic for LEAD. Abnormal ABI level in the automatic measurement was found in 5.9% of the examined population. Only 10.3% of patients had typical LEAD symptoms, expressed by a positive Edinburgh questionnaire result.

According to an analysis of the available literature, automatic measurements performed using the oscillometric method have the potential to become useful in clinical practice. Fewer publications are available on plethysmographic measurements. A comparison of automated photoplethysmographic measurements with traditional measurements shows promising results, while a comparison of measurements using pneumatic plethysmography shows less agreement with traditional measurements and less diagnostic value. The literature suggests that increasing the cut-off level for LEAD diagnosis in automated measurements increases their diagnostic value. In the case of devices using pneumatic plethysmography, using pulse wave analysis together with ABI levels for diagnosis also improves their diagnostic ability. In the comparison conducted between traditional and automated measurements (Dopplex Ability), higher ABI values were observed in automated measurements and the diagnostic ability was insufficient for their implementation in clinical practice. However, as in the previous literature, an improvement in diagnostic ability indices was observed when the cut-off level for LEAD diagnosis was increased and pulse wave analysis was used for diagnosis.