COMMENTS AND RESPONSES

Automated Ankle-Brachial Pressure Index Measurement by Clinical Staff for Peripheral Arterial Disease Diagnosis in Nondiabetic and Diabetic Patients

Response to Gómez-Huelgas et al.

Gómez-Huelgas et al. (1) reported on the use of oscillometric measurement of the ankle-brachial index (Osc-ABI) in diabetic and nondiabetic patients for diagnosis of occlusive peripheral arterial disease (PAD). That study was similar to our previous research (2), although important methodological differences may be noted, especially with the use of magnetic resonance angiography imaging and not ultrasound as a gold standard technique. Consistent with our study, Gómez-Huelgas et al. showed a good efficiency of Osc-ABI to diagnose PAD. They stressed an important point for the handling of invalid Osc-ABI measurements. We do agree with the rule of classifying the errors displayed at measurement as pathological results. Indeed, this is both logical and efficient in a screening strategy. We found, in our series, 13 legs with Osc-ABI error measurement (4.5%), 11 of them (5 in diabetic and 6 in nondiabetic patients) with a significant PAD at Doppler imaging. However, we do not think that establishing correlation coefficient between Osc-ABI and Dop-ABI is relevant because an error in measurement technique cannot be used as a numerical value, except if the rule sets it to an arbitrary value. The choice of this value will alter the result of the correlation assessed. The main point of our study was to define Osc-ABI cutoff values for PAD screening, which goes far beyond the simple correlation between Osc-ABI and Dopp-ABI measurement in the clinical practice.

Gómez-Huelgas et al. suggest that difficulties of Osc-ABI measurement may come from arterial stiffness, which prevents an adequate arterial compression by the oscillometric cuff. Actually, it is well known that medial arterial calcification leads to a high ABI (3), which is strongly associated with PAD (4). However, Gómez-Huelgas reported that case subjects of Osc-ABI errors corresponded to Dop-ABI <0.6, a finding inconsistent with noncompressible arteries. Further studies are needed to understand the reasons underlying invalid measurements for Osc-ABI.

In conclusion, we would recommend that invalid measurements of Osc-ABI and Dop-ABI should be considered as suggestive of PAD, unless further exploration does not confirm the diagnosis.

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