

Physical examination to screen for peripheral artery disease in a defined Primary Care population: A diagnostic accuracy study

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Introduction: Peripheral arterial disease (PAD) is an underdiagnosed prevalent disease which implies high cardiovascular risk. Professionals usually depend on physical examination to screen for PAD. **Objective:** To assess the diagnostic accuracy of physical examination to screen for PAD in a rural Primary Care population and to evaluate the nurse-physician level of agreement in pedal pulse palpation. **Methods:** Diagnostic accuracy study in which two experienced professionals (physician-nurse) prospectively performed pedal pulse palpation (grading as absent, reduced, normal, or bounding), femoral bruit auscultation and calf circumference (index tests) comparing with Doppler ABI (reference test, positive cut-off: $0.9 < \text{ABI} < 1.4$) in 158 consecutive subjects. **Inclusion criteria:** presence of diabetes, dyslipidaemia, hypertension, smoking habit (current or former), or age > 65 . **Results:** Of 315 legs included, PAD was confirmed in 38 (12.1%) legs. Absent dorsalis pedis (DP) and posterior tibial (PT) pulses were found in 37 (11.7%) and 67 (21.3%) legs, respectively. Regarding nurse evaluation, when a positive test was set if DP or PT were absent (more sensitive cut-off), sensitivity was = 86.8 (95% CI: 74.8-98.9), specificity = 82.7 (95% CI: 78.0-87.3), likelihood ratio+ = 5.01 (95% CI: 3.77-6.67), likelihood ratio- = 0.16 (95% CI: 0.07-0.36), and diagnostic odds ratio (dOR) = 31.5 (95% CI: 11.7-84.8). Age, diabetes, and calcification ($\text{ABI} < 1.4$) influenced the rate of a false negative finding in pedal palpation. Physician-nurse weighted kappa coefficient was = 0.649 (95% CI: 0.599-0.699). The presence of a femoral bruit auscultation had a dOR = 3.8 (95% CI: 1.1-13.1), and a calf circumference < 34.55 cm had a

dOR = 3.2 (95% CI: 1.6-6.4). Conclusions and Relevance: In a mainly asymptomatic Primary Care population, pedal pulse palpation was by far the best diagnostic test, with good diagnostic accuracy and inter-rater agreement. In view of a high sensitivity and capacity to rule out the disease, pedal pulse palpation could be performed as a screening test for PAD and individuals at high cardiovascular risk. © 2018 John Wiley & Sons Ltd