



AB040. 69. The use of oscillometric measurement of ankle-brachial pressure indices as a screening tool for peripheral arterial disease

Sorcha O'Meara, Mary Connolly, Lorraine Byrne, Bridget Egan, Sean Tierney

Department of Vascular Surgery, Tallaght Hospital, Dublin, Ireland

Abstract: Ankle brachial pressure indices (ABPIs) are useful in community and primary care settings in screening for significant peripheral vascular disease (PVD) but require training, expertise and are operator dependent. We compared the reliability of a novel automated (operator independent) affordable device that uses oscillometric analysis to measure ABPI with conventional Doppler measurement in a vascular laboratory environment. ABPIs were measured on a series of patients referred for assessment with no known history of vascular disease using a standard Doppler technique (ELCAT, Sword Medical, Dublin) and a novel oscillometric device (MESI, MedEarly Healthcare, Nenagh, Co. Tipperary). The ABPI readings were recorded and patients were categorised as having "Normal" (ABPI

>0.9) or "Abnormal" (ABPI <0.9 or incompressible using MELCAT versus "Error" or "no normal value obtained" using MESI) based on lowest values in either leg. A total of 12 patients were studied included. Among the 6 patients with normal ABPI (MELCAT), all had normal readings on MESI. 5/5 of those with ABPI <0.9 using MELCAT also had abnormal results using MESI (mainly error results). One patient categorised as having incompressible vessels (MELCAT) had normal results using MESI and had normal (0.6) toe pressure indices. MESI identifies patients with abnormal ABPI with a specificity of 100% and sensitivity of 83.3%. The positive and negative predictive values of MESI were 100% and 87.5% respectively. Despite small numbers in this pilot study we have identified the potential use of the MESI device as a screening tool in a community/primary care setting with potential for reducing demand for vascular lab and vascular OPD. Further evaluation is indicated required in a clinically appropriate setting.

Keywords: Arterial; disease; measurement

doi: 10.21037/map.2018.AB040

Cite this abstract as: O'Meara S, Connolly M, Byrne L, Egan B, Tierney S. The use of oscillometric measurement of ankle-brachial pressure indices as a screening tool for peripheral arterial disease. *Mesentery Peritoneum* 2018;2:AB040. doi: 10.21037/map.2018.AB040