

Physiological Assessment of Patients With Advanced Peripheral Arterial Disease (PAD) at The Medical Institute (TMI)

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Background

Assessment of PAD severity, as well as indication of intervention, is traditionally based upon the patient's symptoms and parameters such as ankle-brachial index (ABI). This study looks at toe-brachial index (TBI) as a more accurate alternative to ABI, and examines the relationship of patient perception of symptoms to true severity of PAD.

Methods

Patients with known or suspected PAD were initially evaluated via the STRIDES method which includes: modified King Score, calf circumference (CC) using, six-minute walk distance (6MWD), time to claudication and TBI. The relationship of modified King Score to 6MWD, calf-circumference and TBI was examined, as well as the relationship between TBI and 6MWD.

Results

No significant differences were found between 6MWDs or TBIs as patients' modified King Scores increased or decreased. Patients with lower King Score showed statistically significant decrease in CC compared to patients with higher King Score. Patients whose TBIs improved after 6MWD measurement had significantly lower 6MWD compared to patients whose TBIs did not improve. (Fig 1)

Conclusion

The TBI parameter is more valuable in evaluating severity of PAD than ABI or patient perceptions of symptoms. Modified King Scores showed that whether patients perceived great symptoms or few, there was no difference in the TBI or 6MWD and in fact a decrease in CC with decreased King Score. Furthermore, TBI is more specific for PAD severity than 6MWD, as patients with TBI improvement after exercise had significantly lower 6MWD perhaps due to involvement of other disease processes such as arthritis or COPD.

Other Information

Author Disclosures:

Abbas Ali: This author has nothing to disclose

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