# Assessment of Peripheral Arterial Disease Screening and Management in High-Risk Patients, 7/1/20-5/1/21

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Background:

PAD affects over 8.5 million Americans and is associated with significant morbidity and mortality. The 2016 ACC/AHA guidelines recommend screening asymptomatic and symptomatic patients at high risk of PAD to maximize primary and secondary prevention of ischemic cardiovascular (CAD, angina, STEMI/NSTEMI) and neurologic events (TIA, ischemic stroke). Our study aims to assess for optimal goal-directed medical therapy, quality of life measures and reduce adverse effects in patients at high risk for PAD.

Methods:

Retrospective chart review of 200 patients randomly selected from the ACC clinic from 1/2017-5/2021. The following groups were assessed for PAD screening with ABI: patients 65 years or older, patients 50 years or older with other atherosclerotic (ATS) risk factors, individuals with known ATS in another vascular bed (e.g., coronary, carotid, subclavian, renal, mesenteric artery stenosis, or AAA), and adults 50 years or younger with diabetes and at least one other atherosclerotic disease risk factor. Exclusion criteria were age less than 18, current acute limb ischemia, contraindication to ABI or anti-platelet agent, and/or less than 1 year survival or meaningful recovery. Of the 200 randomly selected patients, 151 met inclusion criteria. Statistical analysis was performed using Microsoft Excel statistical package.

Secondary Endpoints
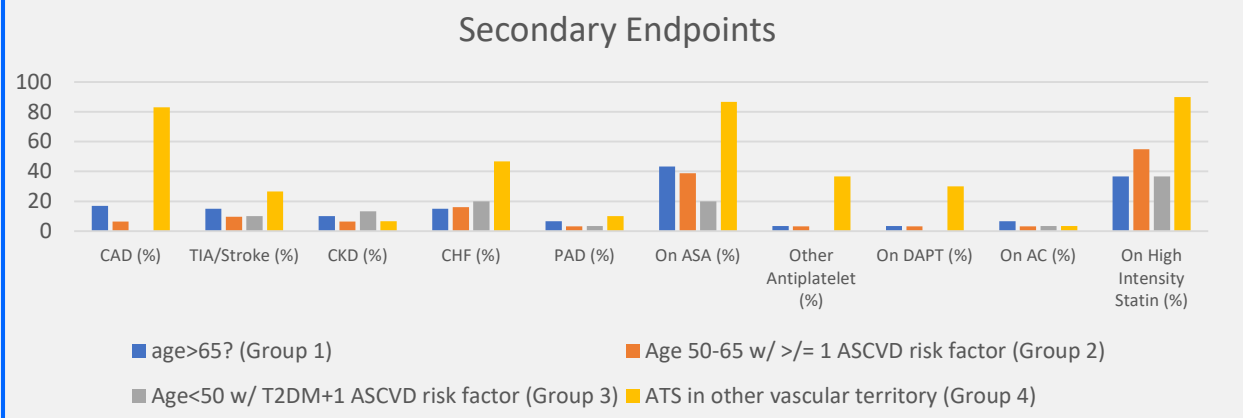
	CAD (%)	TIA/Stroke (%)	CKD (%)	CHF (%)	PAD (%)	On ASA (%)	Other Antiplatelet (%)	On DAPT (%)	On AC (%)	On High Intensity Statin (%)
Group 1	10 (17)	9 (15)	6 (10)	9 (15)	4 (6.67)	26 (43.33)	2 (3.33)	2 (3.33)	4 (6.67)	22 (36.67)
Group 2	2 (6.5)	3 (9.68)	2 (6.45)	5 (16.13)	1 (3.26)	12 (38.71)	1 (3.22)	1 (3.22)	1 (3.22)	17 (54.84)
Group 3	0	3 (10)	4 (13.33)	6 (20)	1 (3.33)	6 (20)	0	0	1 (3.33)	11 (36.67)
Group 4	25 (83)	8 (26.67)	2 (6.67)	14 (46.67)	3 (10)	26 (86.67)	11 (36.67)	9 (30)	1 (3.33)	27 (90)

Sex

Ethnicity

BMI
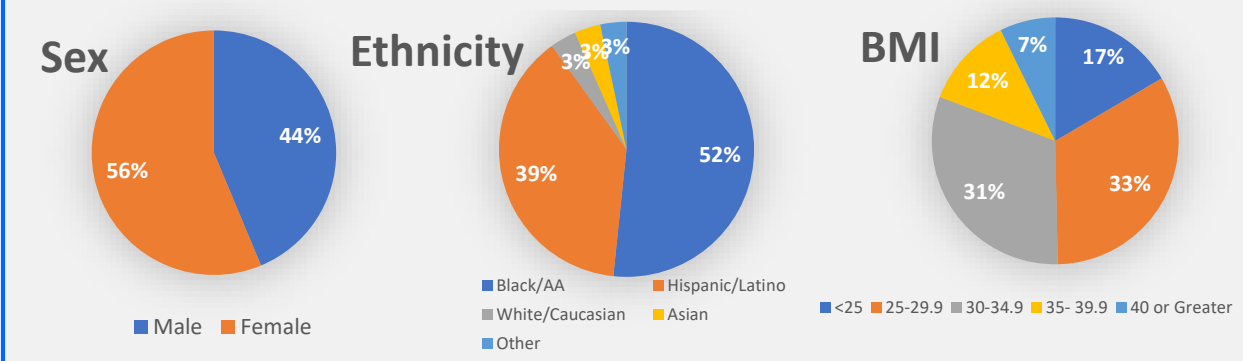
	HTN (%)	HLD (%)	T2DM (%)		Smoking (%)
Group 1	52 (86.7)	38 (63.3)	26 (43.3)	Current	29 (19.2)
Group 2	27 (87.1)	22 (71.1)	12 (38.7)	Former	31 (20.1)
Group 3	22 (73.3)	20 (66.7)	30 (100)	Smoking Cessation offered	17 (58.6)
Group 4	29 (96.7)	25 (83.3)	14 (83.3)		
	130 (86%)	105 (70%)	82 (54)		

Results:

Patients analyzed in group 1,2,3, and 4 had mean age of 72, 62, 35, and 55 years, respectively. There were roughly equal numbers of men and women (44% and 56%, respectively). The overwhelming majority of patients identified as African American (52%) or Hispanic (39%). The highest concentration of patients had a BMI in obese range (67%). Our analysis found that Out of 151 high risk patients across all 4 groups, 5% of patients were screened for PAD with ABI and of those, 20% were diagnosed with PAD. Out of patients (n=23) who had claudication symptoms, only 70% were sent for ABI testing. Out of patients with diagnosis of PAD, 90% were on ASA 81mg and 78% were on a High intensity statin. Within this group of patients, 86% had HTN, 70% had HLD, 54% had T2DM, and 39.7% of patients either smoke or smoked previously. Only 58.6% of current smokers were offered smoking cessation counseling. Group 4 had highest percentage of patients who were on ASA, other anti-plt agent, DAPT and High intensity statin. Also, group 4 (not shown) had highest percentage of patients with claudication symptoms.

Conclusion:

Maximizing PAD screening and management leads to improvement in morbidity, mortality and quality of life. Our findings suggest there is a significant fraction of patients who qualify for and could benefit from PAD screening and management optimization. There are numerous studies which demonstrate that patients with an abnormal ABI, who are asymptomatic have poorer cardiovascular morbidity and mortality than patients with normal ABI. Studies have also shown improved cardiovascular outcomes with early statin treatment in asymptomatic PAD. Therefore, it is necessary to screen for PAD in asymptomatic high-risk populations which can benefit from early interventions. Specifically, there was a significant portion of symptomatic high-risk PAD patients who did not receive non-invasive diagnostic or treatment modalities. Nevertheless, patients with PAD diagnosis were put on appropriate antiplatelet agent and started on High-intensity statin. However, given socioeconomic limitations in our patient population, we recognize limitations in screening.

References:
2016 AHA/ACC Guideline on the Management of Patients With Lower Extremity Peripheral Artery Disease. Marie D. Gerhard-Herman, Heather L. Gornik, Coletta Barrett, Neal R. Barshes, Matthew A. Corriere, Douglas E. Drachman, Lee A. Fleisher, Francis Gerry R. Fowkes, Naomi M. Hamburg, Scott Kinlay, Robert Lookstein, Sanjay Misra, Leila Mureebe, Jeffrey W. Olin, Rajan A.G. Patel, Judith G. Regensteiner, Andres Schanzer, Mehdi H. Shishehbor, Kerry J. Stewart, Diane Treat-Jacobson, M. Eileen Walsh. J Am Coll Cardiol. 2017 Mar, 69 (11) e71-e126.