e ACS 4 WEBINAR NEWSLETTER

Date: 24th September, 2019

Topic: Challenges in treatment of polyvascular diseases and their associated atherothrombotic risk

Passi Publications, in association with Boston School of Medicine, presented its fourth webinar of ACS series, this CME program topic being "Challenges in treatment of polyvascular diseases and their associated atherothrombotic risk". The present report summarizes key comments from the webinar.

Dr. Naomi Hamburg, MD
Boston University School of Medicine, Boston, USA

The fourth webinar of ACS series was broadcasted on 24th of September, 2019 with Dr. Naomi Hamburg, MD, Boston University School of Medicine, Boston, USA giving an informative presentation on "Challenges in treatment of polyvascular diseases and their associated atherothrombotic risk".

Dr. Hamburg's webinar mainly focused on the intersection of polyvascular disease and their associated vascular risks. Over the course of the presentation, Dr. Hamburg discussed regarding the common clinical occurrence of polyvascular disease. She explained in great detail the high risk of cardiovascular and limb events in patients with polyvascular disease. She further highlighted the need of careful clinical evaluation in all patients with atherothrombotic disease for polyvascular disease.

She emphasized on the utilization of guideline-directed medical therapies as well as non-pharmacological therapies for overall management of patients with polyvascular disease. Novel emerging treatments for adequately management of these patients have also been discussed. The presentation was followed by a Q&A session wherein participants posted questions pertaining to various aspects associated with peripheral artery disease.

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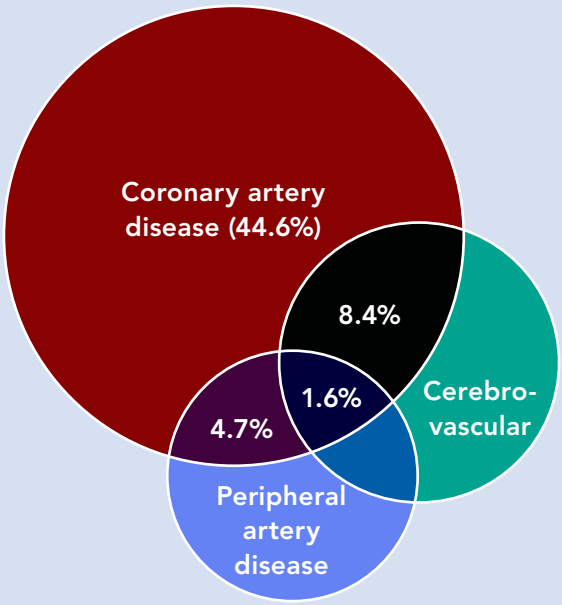
Clinical spectrum of atherothrombosis and its complications

Dr. Hamburg started her presentation by describing the clinical and investigatory findings of a high-risk ACS patient regarding the potential steps for risk stratification. She went on to speak about the spectrum of atherothrombosis regarded to be one of the major causes of death in both developing and developed nations. Besides coronary artery disease (CAD), the major manifestation of atherothrombosis, she discussed other significantly involved components such as cerebrovascular disease (CVD) and peripheral arterial disease (PAD) sharing common underlying risk factors.

She further mentioned the frequency of co-occurrence of these disorders. In this regard, Dr. Hamburg discussed results of the REACH registry which showed that 25% of patients with CAD had atherothrombotic disease in other arterial territories with significant overlap of all three manifestations of atherothrombosis (Figure 1). When followed up for 3 years, the event rates in terms of vascular death, MI, stroke, and re-hospitalization were significantly higher in patients with polyvascular disease as compared to single vascular bed disease.

Figure 1: Overlap of atherothrombosis manifestations in CAD patients enrolled in the REACH registry



Role of ankle brachial index in diagnosing PAD

Dr. Hamburg discussed the 2016 AHA/ACC PAD guideline recommendations which stated the requirement of resting ABI, with or without segmental pressures and waveforms, in patients with history or physical examination findings suggestive of PAD to establish the diagnosis.

Dr. Hamburg further stated ABI, represented by the ratio of ankle systolic pressure to brachial systolic pressure, to be a non-invasive test with high sensitivity and specificity in terms of PAD diagnosis. It can be easily performed at the office or vascular laboratory settings with recording of pressures and waveforms using Doppler or pulse volume recordings. The normal range of the index is 1 to 1.4 with further interpretations shown in Figure 2.

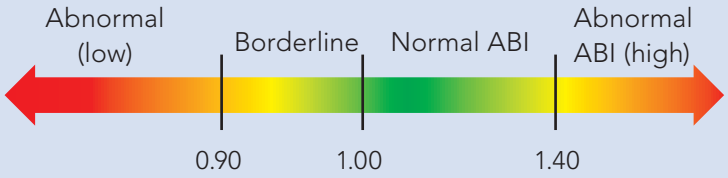
Impact of PAD on prognosis of patients post MI

In terms of evaluating the impact of PAD post myocardial infarction (MI), Dr. Hamburg discussed the results of the CRUSADE trial which was conducted in 95,749 patients

Figure 2: Interpretations of ankle brachial index

How to interpret the ABI?

- For diagnosis of lower extremity arterial disease (LEAD) interpret each leg separately (one ABI per leg).
- For CV risk stratification: Take lowest ABI between the two legs.
- Interpretation:



with non-ST elevation MI (NSTEMI) in the US. About 12% patients had pre-existing PAD, while 10% and 43% patients had CVD and CAD, respectively. It was reported that in-hospital events such as death, stroke, recurrent MI, heart failure and a composite of all events were higher in patients with more number of arterial territories involved, thus implying elevated risk of events with polyvascular disease. Similarly, increased mortality at 3 years was reported in a meta-analysis of 8 RCTs including patients undergoing PCI among which 8% had clinical PAD.

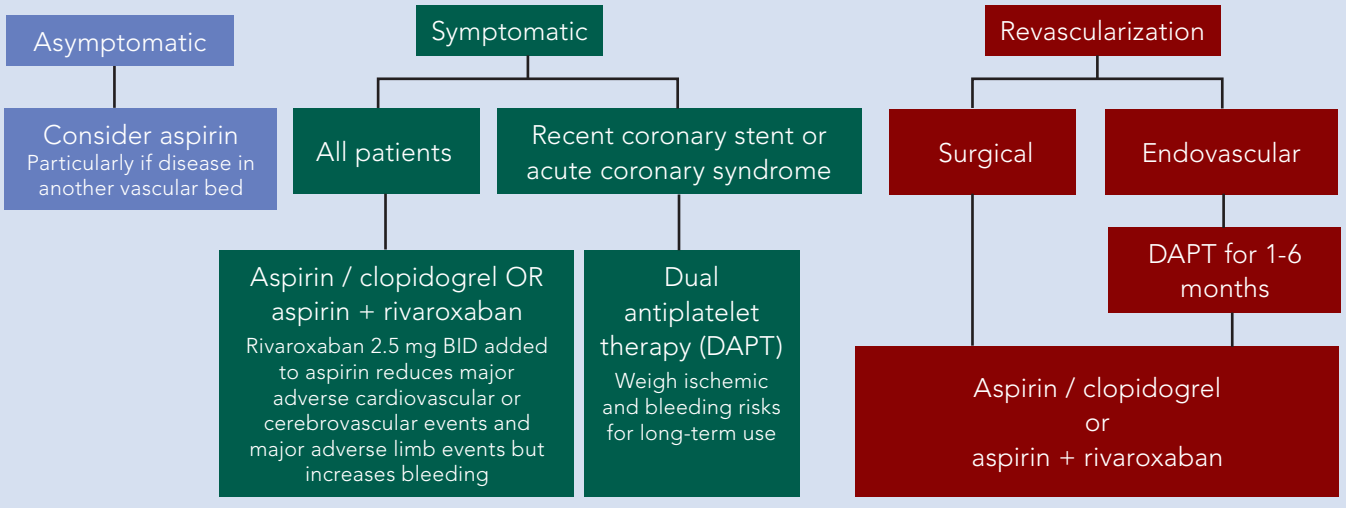
She further discussed data from Middle East which demonstrated similar results in terms of high mortality and increased adverse events in patients with polyvascular disease. Even across patients with established PAD and diabetes, higher risk for MACE was reported with greater number of arterial territories involved. She listed the potential factors making polyvascular disease challenging and risky such as increased risk factor burden, higher chronic kidney disease (CKD) prevalence, under-treatment of risk factors, greater functional impairment and biologically distinct nature of the disease.

Management of polyvascular disease: Role of different treatment approaches

Dr. Hamburg highlighted the benefits of dual antiplatelet therapy in high-risk patients as demonstrated by investigators of subgroup analyses of CHARISMA trial wherein patients with polyvascular disease reported a lower rate of cardiovascular events with aspirin plus clopidogrel therapy as compared to aspirin plus placebo. Although no difference was reported when different antiplatelet agents such as ticagrelor and clopidogrel were administered in patients with symptomatic PAD as per the EUCLID trial, addition of ticagrelor to aspirin was found to be beneficial in PAD patients with prior MI. Dr. Hamburg further discussed the benefits of adding other antiplatelet agents such as rivaroxaban to aspirin in terms of reduction of MACE and limb events. Overall, she summarized different antithrombotic therapies in symptomatic and asymptomatic patients with PAD such as aspirin/clopidogrel monotherapy, aspirin + low-dose rivaroxaban combination and dual antiplatelet therapy with choice of agents determined by different factors (Figure 3).

Dr. Hamburg marked the clinical benefits of LDL lowering in terms of cardiovascular risk reduction. She also pointed out the under-utilization of statins in patients with PAD, thus emphasizing the need of intensified statin therapy to improve outcomes. She concluded by highlighting the importance of other potential therapeutic targets such as PCSK9 inhibition using agents like alirocumab and evolocumab; novel glucose lowering therapies; smoking cessation and exercise. She further affirmed the need of increased utilization and implementation of these guideline-directed strategies to improve outcomes in high-risk patients.

Figure 3: Antithrombotic therapies in patients with PAD



Q&A session

Q1: How often do you get patients with typical symptoms of PAD?

A: A minority of patients have the classic claudication symptoms of PAD; however, they also describe other symptoms such as fatigue, other kinds of vague leg pain that may not fit the classic claudication symptoms. Even patients with no classic symptoms have marked limitations in their walking ability.

Q2: Does pregnancy increase the risk of PAD?

A: There are vascular diseases associated with pregnancy with major ones being spontaneous coronary artery dissection, aortic dissection and venous thromboembolism. Events such as preeclampsia and gestational hypertension are remotely associated with increased risk of cardiovascular events in general and not specifically PAD.

Q3: Is ABI cutoff of ≤0.9 for PAD acceptable across all age groups including elderly? Will this cutoff value not report underestimated prevalence of PAD in elderly?

A: I don't think there is any evidence that older people have different cutoffs for ABI other than some age associations with higher rate of calcified vessels which can raise the ABI. However, the normal value should range between 1 and 1.4. Thus, a value <1 would suggest PAD, provided the clinical scenario corresponds and other diagnostic assessments are done.

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