

Clinical Cardiology Congress 2019: Depression in patients with peripheral arterial disease

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Abstract

Objectives:

The association between disorder and depression is well-established. Peripheral arterial disease arises from atherosclerosis like other disorder, but unlike other disorder, it impairs ambulation and lower extremity function. Given peripheral arterial disease's unique characteristics and underrepresentation in psychological state research, we aimed to: (a) assess the prevalence of depression or depressive symptoms among peripheral arterial disease patients compared to arteria coronaria disease rates, (b) assess whether an independent association between peripheral arterial disease and depression exists, and (c) identify associated factors which will be targeted for intervention.

Depressive symptoms are known to compromise health status in cardiac disease, but this relationship has not been described in peripheral artery disease (PAD). Depressive symptoms (PHQ-9) and disease-specific health status (Peripheral Artery Questionnaire, PAQ) were assessed in 242 PAD patients undergoing percutaneous transluminal angioplasty (PTA) at baseline and 1 year. Patients were classified by baseline and follow-up depression status (moderate-severe depressive symptoms = PHQ \geq 10). Changes were categorized as no depression/improvement of depression versus persistent/worsened depression. At baseline, 20% of patients were depressed; at 1 year, 17% of patients experienced persistent/worsened depression. Although this group improved on most PAQ subscales, they improved to a significantly lesser degree than those without depressive symptoms or those that improved by 1 year (p -values $<$ 0.05). Baseline depressive symptoms (B(per 5-point increment) = -11.9, 95% CI -15.3, -8.5, $p <$ 0.0001) and changes in depression were independently related to a decrease in 1-year health status (B(per 5-point increment) = -11.7, 95% CI -14.3, -9.2, $p <$ 0.0001). In conclusion, depressive symptoms are related to less improvement in health status 1 year after undergoing a peripheral endovascular revascularization (PER) as compared with those having no depression or whose depressive symptoms improve. Efforts to enhance depression detection and treatment among patients with PAD may improve the health status outcomes of those patients.

Design: This study was based on a systematic review.

Materials and methods: Electronic databases were searched to spot studies that examined peripheral arterial

disease and depression or depressive symptoms. Methodological quality was assessed using the Newcastle-Ottawa Scale.

Results:

We identified 28 studies. Prevalence of depression or depressive symptoms ranged from 11-48% in 12 cross-sectional studies, and from 3-36% in 16 longitudinal studies, which is like reported arteria coronaria disease rates. Depressed peripheral arterial disease patients were more likely to be female, African American, and have more severe peripheral arterial disease symptoms and more compromised physical function compared to non-depressed patients. There is evidence to suggest that depression exerts a negative influence on walking ability and physical function independently of peripheral arterial disease.

Conclusions:

A critical goal to address depression in peripheral arterial disease patients, particularly those with characteristics that place them at increased risk. Vascular care providers appear to be the primary contact for assessing depressive symptoms, and once identified, integrated mental health providers may intervene to prevent the worsening of both depression and peripheral arterial disease.

Depression is the most common mental health disorder worldwide,¹ and is a leading cause of disability.² It is significantly more prevalent among people with cardiovascular disease (CVD) than among the general population,³ and clinical guidelines recommend depression screening as a component of CVD assessment.⁴ Peripheral arterial disease (PAD) is an atherosclerotic disease like coronary artery disease (CAD) and stroke, affecting over 200 million people worldwide.⁵ Unlike other CVD, however, PAD comprises a range of progressive vascular syndromes characterized by lower extremity (LE) pain and impaired walking ability, and is a frequent cause of amputations.⁶

Introduction:

The burden of depression in CVD and its associated morbidity and mortality are well-established in a large body of research.^{7,8} Nevertheless, the vast majority of published studies either do not include PAD in their estimates, or mention it only in passing. This may in part be due to PAD pathophysiology; approximately 50% of people with PAD report being asymptomatic prior to an acute ischemic event,⁹ suggesting that PAD is also widely under-recognized and

underdiagnosed.^{10,11} To date, the magnitude of an association between depression and PAD remains unknown.

Aims:

We aimed to evaluate the prevalence of depression and depressive-type symptoms in patients with PAD and compare this to the prevalence among patients with CAD. We further sought to assess the evidence for an independent association between depression and clinical outcomes among patients with PAD. Finally, we attempted to identify factors that may influence the PAD-depression association.

Abbreviations:

PAD: peripheral arterial disease

ABI: ankle-brachial index

BDI: Beck Depression Inventory

BFI-44: Big Five Inventory

This work is partly presented at [25th World Cardiology Conference on July 01-02, 2019](#)