Understanding sex differences in health status: A frontier in the field of vascular medicine

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Although the effects of peripheral artery disease (PAD), including claudication, have been well described in men, much less is known about the effects of PAD on health in women. This is, in part, because for many years PAD was considered a disease that mostly affected men, and only more recently have studies included both women and men in numbers that enable determination of sex differences. Available studies suggest that women with PAD may fare worse than men with regard to health status and quality of life,1,2 but there have not been enough data to enable understanding of the potential causes of these sex differences.3

In this issue of Vascular Medicine, Roumia and colleagues4 provide results and interpretation of an international multicenter registry examining the characteristics of PAD patients (n=1274) with new or worsening PAD symptoms. In the sub-study of the Patient-centered Outcomes Related to Treatment Practices in Peripheral Arterial Disease Investigating Trajectories (PORTRAIT) study, sex differences for disease-specific and overall health status, as measured by the Peripheral Artery Questionnaire (PAQ) and generic health status from the European Quality of Life five dimensions questionnaire, were evaluated cross-sectionally to outline sex differences prior to treatment for PAD. Results indicated that women (n=481) had significantly worse PAQ scores compared to men (n=793) for all domains (p<0.001) except treatment satisfaction (p=0.90). In contrast, men did not have any PAQ domains that were worse than those of women. As observed above, the finding that women have lower health status (which is comprised of elements associated with symptom presentation, functioning, and quality of life) compared to men has been noted in several reports.1,2,5 What is more remarkable is that the PORTRAIT study not only considered physical outcomes, but also a wide array of social, psychological, and economic factors that may have links to lower health status outcomes in women. The outcomes assessed included (but were not limited to) higher rates of depression and financial concerns for women with PAD compared to men, as well as lower rates of married status, possession of health insurance, cohabitation, and health care utilization due to cost. The authors concluded that these factors could not definitively account for the lower health status scores. However, raising these issues opens the door to improved studies of health status by introducing the importance of understanding a broad-based array of determinants of health among patients with vascular disease. How does the current study move the needle toward enhancing outcomes in women with PAD? It highlights the concept that simply treating the classic symptoms of PAD alone may not be the optimal strategy, but rather a comprehensive approach with targeted, sex-specific therapy may be needed.

Dearth of studies on women and PAD

Too often, measures of health status have been secondary and non-comprehensively assessed outcomes in trials of patients with PAD. Since there is also a dearth of information about sex differences in PAD, this combination of factors leads to a lack of adequate knowledge about health status and outcomes, particularly in women with this disease. The PORTRAIT study has made meaningful strides to dig deeper to identify some of the possible explanatory factors and thus has taken a step towards correcting this deficit.

Treatment paradigm for PAD

In their report, Roumia and colleagues state that ‘raising the awareness for the socio-economic challenges that

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these women face and improving detection and treatment of the mental health burden may be an important avenue to look into to optimize our PAD management strategies. Importantly, it is clear that just treating symptoms may not be enough to lead to the desired changes in health status, particularly in women. The standard approach for PAD and claudication has utilized endovascular therapy as a primary front-line treatment option when revascularization is indicated. This approach addresses patency of vessels, symptoms, and some aspects of health-related quality of life, but not the other issues identified in this study. Exercise training is an option for PAD treatment with a more holistic approach to psychological variables as well as cardiovascular risk factors and function, but it is unlikely to positively impact socio-economic variables. Given the complexity driving the health status of women PAD patients, different healthcare disciplines may need to be consulted to appropriately achieve improvements in outcomes. Thus, simply restoring function may be inadequate where socio-economic and/or psychosocial factors also play a role. In addition, we still need to better identify the causes of the greater impairments in health status in women than in men with PAD to more effectively target treatments.

In conclusion, this analysis from the PORTRAIT study investigators confirms that among patients with PAD, women are detrimentally affected to a greater degree than men with regard to measures of health status. The authors suggest some possible causes, but, overall, results are inconclusive. More research into the evaluation of health status in women with PAD is needed. It is likely that a multifaceted treatment approach to this disease is warranted, probably for both sexes, but perhaps especially for women with PAD.

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