

# Comment On “Vein Size and Disease Severity in Chronic Venous Disease” by Radhakrishnan et al

## Afflicted Vein Diameter or Signs and Symptoms in Chronic Venous Disease: Which One Really Matters?

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Besides being a widespread health problem, chronic venous disease (CVD) of the lower extremities is also a cosmetic and growing economic problem. CVD or lower extremity varicose veins can be classified as a subgroup of dilating venous or vascular diseases.<sup>1–3</sup> Spider veins, varicose veins, edema, changed skin color, and ulcerations are the main clinical signs of the disease<sup>4</sup> and admission complaints of patients mostly include heavy legs, aching legs, swelling, night cramps, burning sensation, restless legs, throbbing, itching and tingling.<sup>5</sup> In addition to these symptoms, color changes including purpuric and ecchymotic lesions of the lower extremities have been described as a significant reason for admitting to phlebology clinics in this patient group.<sup>6–9</sup>

Until recently, the clinical severity of CVD was thought to be associated with the reflux in the large truncal veins of the lower extremities which is diagnosed by venous duplex ultrasonography.<sup>10</sup> For this reason, patients with reflux solely in the small superficial veins are usually neglected and may not be considered for treatment.<sup>11</sup> However, it is known from previous reports that there may not be a significant difference in the symptoms of patients with and without duplex ultrasound confirmed functional venous disease.<sup>12</sup> In addition, a recently published study demonstrated that there is no significant association between truncal varicose vein diameter and patients clinical stage, symptoms, and quality-of-life measurements.<sup>11</sup> Therefore, the major question needs to be answered in this context is, which one really matters in CVD patients. Diameter of afflicted veins or symptoms? We believe that finding an appropriate answer to this question may help to understand the underlying etiology and pathogenesis of CVD.

In the latest issue of the *International Journal of Angiology*, Radhakrishnan and colleagues published the results of their

analysis about the relationship between the size of veins with blood reflux and clinical manifestations of CVD patients.<sup>13</sup> In their retrospective study design, including a relatively large population of CVD patients, they found throbbing sensation/pain and hyperpigmentation are the most common admission symptoms. In addition, the authors of the study analyzed the association between symptoms and the affected vein diameter. Briefly, they found that severity of the disease is significantly associated with blood reflux in veins with small diameter (< 4 mm) compared with the reflux in truncal veins. There was a strong relationship between the reflux in small veins and symptoms including edema, cellulitis, itching, ulceration, and hyperpigmentation. Only throbbing sensation/pain was associated with the reflux in great diameter veins.<sup>13</sup> We believe that there are important take home messages might be gathered from this study and these findings should be discussed in detail.

Pathogenesis of CVD is not fully understood and therefore interpretation of symptoms in patients suffering from CVD may be difficult. In addition, symptoms may show a diverse spectrum due to the fact that this is a local manifestation of systemic vascular wall pathology named as “Dilating Vascular Diseases.”<sup>1,2</sup> For example, in a recently published study by our group, we have shown that patients suffering from varicocele, which is a dilating venous disease of the pampiniform plexus, also suffer from varicose vein symptoms which are also present in the Venous Insufficiency Epidemiological and Economic Study-Quality of Life/Symptoms (VEINES-QoL/Sym) questionnaire.<sup>14</sup> In addition, similar to results published by Radhakrishnan et al,<sup>13</sup> there are several recently published papers in the literature describing skin lesions, such as ecchymosis, hyperpigmentation, and purpuric lesions, in CVD patients.<sup>6–9</sup> The pathophysiological mechanism of these skin

lesions is not clear, although the vascular wall abnormality, inflammation, oxidative stress, and subsequent rupture of small vessels are the suspected mechanisms.

Accordingly, it is important to consider CVD or dilating venous disease more frequently in evaluating the signs and symptoms of lower extremities, especially of whom the underlying etiology is obscure. Given the findings of Radhakrishnan and colleagues, skin lesions really matter in differential diagnosis of CVD or varicose venous of lower extremities.

#### Conflict of Interest

None declared.

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