



EDITORIAL

Diabetes – a risk factor and prognosticator in peripheral artery disease

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Peripheral artery disease (PAD) is characterized by insufficient blood supply to the legs causing pain and dysfunction in the same way that coronary artery disease (CAD) leads to angina [1]. As PAD shares the same risk factors as other cardiovascular diseases, the coexistence of CAD and PAD is quite common [2]. Patients with PAD have an increased risk for cardiovascular death as well as for other unfavourable outcomes (myocardial infarction, and stroke) [3-5]. Well-known risk factors for PAD include advanced age, smoking, hypertension, dyslipidaemia and diabetes. Keeping in mind that more than 400 million people have diabetes worldwide, and that the global prevalence of tobacco smoking is decreasing, diabetes is becoming the most important risk factor for PAD [1]. Besides increasing the incidence of PAD, diabetes is accelerating the course of the disease itself [6]. Patients with PAD and diabetes tend to suffer from more severe forms of atherosclerotic disease, with a greater risk of lower-extremity amputations compared to nondiabetics with PAD [7]. Diabetes increases the risk for critical limb ischemia (CLI), as the most severe form of PAD, about four times [8]. Moreover, these patients have an extremely high overall mortality, especially cardiovascular mortality, which is more than six times more likely compared to those without diabetes [9]. The incidence and severity of PAD in diabetic patients depends on the disease duration, degree of diabetic control, as well as the presence of peripheral neuropathy [10,11]. Abnormalities in the endothelial, vascular smooth muscle, and platelet function contribute to the accelerated atherosclerosis. Also, a broad spectrum of metabolic abnormalities, such as hyperglycaemia, free

fatty acids, and insulin resistance alter the function and structure of blood vessels increasing the risk of unfavourable cardiovascular outcomes [12]. Among patients with diabetes and PAD, accumulating studies have shown the association between diabetes and all-cause mortality. However, results in these studies are conflicting regarding the impact of diabetes on outcome [13-15]. A recently conducted meta-analysis that included twenty one studies with 15,857 patients showed that diabetes increased the risk of all-cause mortality almost twofold in PAD patients, and the effect was even more pronounced in patients with CLI, with a three times higher risk compared to nondiabetics [16]. A stronger effect was observed in patients with CLI and was mostly due to the systemic atherosclerotic burden associated with CLI, i.e. the frequently associated CAD, and affection of other vascular territories [1,16]. These data suggest that diabetes is not only a strong risk factor, but also an important prognostic factor in PAD. Diabetic patients with PAD, due to their associated peripheral neuropathy can be asymptomatic at earlier stages, and usually lack the typical symptoms of angina when concomitant ischemic heart disease is present [6]. In that way, sudden death may be the first clinical presentation of CAD in patients with PAD and diabetes. Therefore, we have to keep this subpopulation of diabetic patients in mind because they are at a very high risk for fatal cardiovascular events. Identifying these patients early, as well as incorporating a comprehensive diagnostic evaluation for the often unrecognized (silent) CAD is of utmost importance and one of the main goals for both clinicians and family care physicians.

Author contributions

MV gave an idea for the article, participated in drafting the article and gave the final approval. KV reviewed the previously published literature, participated in drafting the article and gave the final approval.

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