Journal of Diabetes Research

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Special Issue on

Microvascular Disease in Type 2 Diabetes: The Connection between Diabetic Peripheral Neuropathy and Obstructive Sleep Apnea

CALL FOR PAPERS

Type 2 diabetes (T2D) in conjunction with other major risk factors (e.g., obesity) is an important cause of cardiovascular disease (CVD). Endothelial dysfunction (ED) is a key factor in the pathogenesis of vascular disease observed in patients with T2D. Hyperglycemia and/or insulin resistance have a profound impact on vascular homeostasis leading to both, macrovascular and microvascular complications. Diabetic macrovascular disease resembles atherosclerotic lesions, while diabetic microvascular disease is present primarily as retinopathy, nephropathy, and neuropathy. Suppressed nitric oxide (NO) bioavailability and increased oxidative stress are the main culprits leading to such dysfunction. These changes in conjunction with advanced glycation end products, low grade inflammation, and neovascularization of vasa vasorum can lead to macrovascular complications. ED, especially at the level of the microvasculature, is one of the most deleterious events in T2D. For instance, diabetic peripheral neuropathy (DPN) is one of the most common long-term microvascular complications of T2D.

Interestingly, obstructive sleep apnea (OSA) is also common in patients with T2D, where obesity is a shared risk factor for T2D and OSA. Furthermore, OSA is associated with inflammation, oxidative stress, and shares many of its molecular consequences with hyperglycemia which can lead to microvascular complications in patients with T2D. Thus, it appears that OSA may be associated with DPN in patients with T2D.

We invite investigators to contribute original research articles as well as review articles that will bring understanding of the pathogenesis of microvascular complications in T2D and address more effectively therapies for prevention and treatment (e.g., the role of physical activity and exercise). A particular interest will be given to papers exploring or discussing the mechanisms and relationship between DPN and OSA. Original, high-quality contributions that are not yet published or are not currently under review by other journals or peer-reviewed conferences, are being sought.

Potential topics include but are not limited to the following:

- Physiologic and pathophysiologic roles of insulin in the microvasculature in T2D, DPN, and OSA
- Hyperglycemia, inflammation, and oxidative stress in the pathogenesis of microvascular disease in T2D, DPN, and OSA
- The prevalence and relationship between DPN and OSA among patients with T2D
- Microvascular complications in T2D: the cellular and molecular mechanisms involved in DPN and OSA
- Therapies for prevention and treatment (e.g., exercise) in managing insulin resistance and improving endothelial function in DPN and OSA
- Clinical management of DPN and OSA in patients with T2D

Authors can submit their manuscripts through the Manuscript Tracking System at https://mts.hindawi.com/submit/journals/jdr/nosap/.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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