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Diabetic Retinopathy and Endothelial Dysfunction in Patients with Type 2 Diabetes Mellitus (*Diabetes Metab J* 2013;37:262-9)

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We sincerely appreciate the interests and comments on our study, "Diabetic retinopathy and endothelial dysfunction in patients with type 2 diabetes mellitus" which was published in *Diabetes & Metabolism Journal* 2013;37:262-9.

We agreed with Dr. Son's perspective stating that the dysfunction of the vascular endothelium and chronic low grade inflammation are key features of the development of diabetic retinopathy. Previous studies reported the association between microangiopathy, endothelial dysfunction, and inflammation in type 2 diabetes. One prospective study showed that increased urinary albumin excretion, which is closely connected with retinopathy in patients with type 2 diabetes, endothelial dysfunction, and chronic inflammation, are interrelated processes [1]. In addition, van Hecke et al. [2] suggested inflammation and endothelial dysfunction (estimated by levels of molecular markers) are involved in the pathogenesis of retinopathy, and other experimental and clinical studies also have shown inflammation and endothelial dysfunction to be the pathogenic risk factors of diabetic retinopathy [2,3].

Furthermore, there are some evidences supporting the hypothesis that microvascular and macrovascular complications may have similar pathophysiological backgrounds. Microalbuminuria is well known as the risk of cardiovascular events, and its presence increases the incidence of cardiovascular events [4,5]. Diabetic retinopathy is also associated with intima media thickness and arterial stiffness [6] and predicts coronary heart disease events in patients with type 2 diabetes [7]. Endothelial dysfunction and inflammation can possibly serve as linkage mechanisms between microvascular and macrovascular complication; further prospective studies are needed to elucidate the pathogenic mechanisms.

Finally, your comments supported the conclusion of our study. We did not check inflammatory markers in this study, and we hope to publish another reliable prospective study to clarify the interrelationship between inflammation, endothelial dysfunction, and the development of diabetic retinopathy in the near future. Thank you for taking interest in this study and for your thoughtful comments.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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