

Subclinical Hypothyroidism Is Independently Associated with Microalbuminuria in a Cohort of Prediabetic Egyptian Adults (*Diabetes Metab J* 2013;37:450-7)

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Dear Editor,

It was with great interest that I read the article entitled “Sub-clinical hypothyroidism is independently associated with microalbuminuria in a cohort of prediabetic Egyptian adults” by El-Eshmawy et al. [1] in this journal.

The associations between diabetes, subclinical hypothyroidism (SCH), and vascular complications have important clinical implications because hypothyroidism itself is a risk factor of atherosclerosis through endothelial dysfunction, and microalbuminuria is an independent marker of cardiovascular diseases in patients with type 2 diabetes. They were the first to present a report about the association of SCH and albuminuria in prediabetic subjects. However, this study has some points that should be discussed.

Firstly, prediabetic subjects with SCH had higher levels of insulin resistance and microalbuminuria, but there was no significant association between the level of thyroid stimulating hormone (TSH) and hemoglobin A1c (HbA1c). Recently, Bilic-Komarica et al. [2] reported that TSH is correlated with HbA1c in patients with SCH. Also, they showed that the HbA1c level was reduced after 6 months of thyroid hormone replacement treatment in patients with SCH. Moreover, because insulin resistance and fasting insulin is associated with TSH, analysis for the reason why there was no correlation between

TSH and HbA1c levels is needed.

Secondly, hypothyroidism patients usually have anemia. Anemia is a condition which leads to falsely elevated HbA1c levels. Christy et al. [3] recently reported that non-diabetic hypothyroidism subjects with anemia had elevated HbA1c levels in a prediabetic range. Since SCH can result in anemia, it would be advisable to examine the prevalence of anemia in this study population and the association between anemia and the level of HbA1c.

Thirdly, another study reported that the prevalence of SCH was 7.2% in type 1 diabetic patients [4]. Because the main cause of SCH is autoimmune thyroiditis, the prevalence of SCH can increase in patients with type 1 diabetes. However the mechanism for the increased incidence of SCH in prediabetic or type 2 diabetic subjects is not clear, therefore measurements of thyroid auto-antibody is necessary.

Fourthly, there are not many studies regarding the association between SCH and diabetic microvascular complications. A few previous studies from Taiwan [5], China [6], Korea [7], and Japan [8] demonstrated the association between them, but, there are some contradictory results. Chen et al. [5], Yasuda et al. [8], and this article [1] reported the association between SCH and diabetic nephropathy, but not with retinopathy. On the other hand, Yang et al. [6] and Kim et al. [7] demonstrated the

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association between SCH and diabetic retinopathy, but not with nephropathy. Therefore, further prospective studies are needed to confirm the exact association between SCH and diabetic microvascular complications in multiple ethnic groups and large prospective studies.

CONFLICTS OF INTEREST

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

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