

# Glycobiology World Congress

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## Disappearance of relationship between AGE and AOPP in microalbuminuric patients with Type 2 diabetes suggests disturbance of glycooxidation balance in diabetic nephropathy

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Complications of diabetes mellitus are associated with non-enzymatic glycation and oxidative stress which damages proteins. Sufficient data supports that such inflammatory process affects advanced glycation end products (AGE) and advanced oxidation protein products (AOPP). These glycooxidation mechanisms have been recently stated to play an important role in progression of vascular complications in diabetes. To date, the exact relationships between glycation and oxidation pathways have not been discovered. Our study assesses the effect of albuminuria progression in patients with Type 2 diabetes on AGE and AOPP levels and their relationship according to the albuminuria. We designed a matched case-control study of 38 microalbuminuric patients with Type 2 diabetes and 38 AGE and body mass index (BMI) matched normoalbuminuric patients with Type 2 diabetes. Serum concentrations of AGE and AOPP were measured. There were no significant difference between both AGE and AOPP comparing normoalbuminuric and microalbuminuric patients. Multiple logistic regression analysis showed a significant correlation between AGE and AOPP in normoalbuminuric patients ( $r = 0.375$ ,  $p\text{-value} < 0.05$ ) which remained significant after adjustment for age, BMI, systolic and diastolic blood pressure ( $r = 0.493$ ,  $p\text{-value} < 0.05$ ); while such correlation was not observed in microalbuminuric patients by far. ( $r = 0.08$ ) Our finding suggests that disappearance of the relationship between glycation and oxidation marker molecules in diabetic nephropathy progression happens. Such disturbance in the balance between these molecules may be able to reveal the pathogenesis of biochemical processes which leads to vascular damage in complications of diabetes.

### Biography

Mehrdad Larry is pursuing his graduation and he will be MD-MPH from Tehran University of Medical Sciences next year. He has been the first place in The Scientific and Laboratory Examination in Isfahan province two times. He earned the second place in National Entrance Exam for Universities in Iran. Currently, he is working on oxidative stress in patients with diabetic nephropathy at Endocrinology and Metabolism Research Center (EMRC) at Vali-Asr Hospital affiliated with Tehran University of Medical Sciences. He has published 6 papers in reputed journals so far.

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