Soha M Abd El Dayem et al., J Hypertens 2017, 6:3(Suppl)
DOI: 10.4172/2167-1095-C1-002

Relationship of plasma level of nesfatin, chemerin and vaspin to early atherosclerotic changes and its genetic study in adolescent type 1 diabetic patients

Soha M Abd El Dayem[1], **Ahmed A battah**[2], **Abo El Maged El Bohy**[2] and **Solaf Ahmed**[1]
[1]National Research Centre, Egypt
[2]Cairo University, Egypt

Objective: To evaluate the relationship of plasma level of nesfatin, chemerin and vaspin to early atherosclerotic changes and also to evaluate chemerin and vaspin genotype and to detect its relation to glycemic control and atherosclerosis in adolescent type 1 diabetic patients.

Patients and methods: The study included 70 type 1 diabetic patients and 30 age and sex matched healthy volunteers. The mean age of patients was 17.99 ± 2.59, mean duration of diabetes was 10.91 ± 3.54, and mean onset of disease was 7.00 ± 3.28. Blood samples were taken for assessment of chemerin, nesfatin, vaspin and oxidized low-density lipoprotein (OxLDL) by enzyme linked immunosorbent assay (ELISA) technique. In addition, blood samples were taken for analysis of glycosylated hemoglobin (HbA1); lipid profiles and urine samples were taken for assessment of albumin/creatinine ratio. Carotid (cIMT) and aortic (AIMT) intima-media thickness were also done.

Results: Nesfatin, chemerin, vaspin, OxLDL, albumin/creatinine ratio, cIMT and AIMT were significantly higher in diabetic patients. HbA1 and cIMT were significantly higher in homozygous (TT) genotype of chemerin than GG genotype (9.50 ± 1.99 vs. 8.34 ± 1.62 and 0.54 ± 0.06 vs. 0.50 ± 0.04 respectively). Chemerin and Vaspin had a significant positive correlation (r = 0.2, P = 0.05), nesfatin and LDL (r = 0.3, P = 0.05) and Vaspin and body mass index (r = 0.3, P = 0.01).

Conclusions: Diabetic patients had increased level of adipocytokines and are liable for early atherosclerosis. Homozygous genotype (TT) of chemerin in diabetic patients is associated with poor glycemic control and early atherosclerosis.

Biography

Ahmed Abdelrahman Battah is a Professor of Critical Care Cardiology Cairo University. He is working as Interventional Cardiology & Echocardiography Consultant at Cairo University hospitals & Al Salam International Hospital. He is also the member of the European society of Cardiology, Member of the European Critical Care, Member of the Egyptian Society of Critical Care Medicine, Member of the Egyptian Society of Cardiology.

ahmedbattah40@yahoo.com

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