Assessment of serum levels of soluble CD40L in Egyptian children and adolescents with type 1 diabetes mellitus: Relationship to microalbuminuria and glycemic control

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Abstract:

Context: Soluble CD40 ligand (sCD40L) is known to be elevated in different clinical situations including hypercholesterolemia, acute coronary syndromes, and type 2 diabetes mellitus (T2DM). Data about the relationship between type 1 diabetes mellitus (T1DM) and sCD40L is limited. In addition, the potential role of sCD40L in the pathogenesis of vascular complications in children and adolescents with T1DM is to be clarified. Hence, the study aimed at assessment of sCD40L levels in children and adolescents with T1DM and correlation of these levels with glycemic control and microalbuminuria. Settings and Design: Cross-sectional controlled study. Materials and Methods: The study was performed in the Pediatric Endocrinology and Diabetes Unit, Assuit University Children Hospital, Assiut, Egypt. It included 70 children and adolescents with T1DM (mean age 14.76 ± 2.21 years). Cases were further subdivided into 43 cases with normoalbuminuria and 27 cases with microalbuminuria according to presence or absence of microalbuminuria in fresh urine samples. Twenty-five healthy subjects, age- and sex-matched were included as control group (mean age = 13.62 ± 2.11 years). Studied cases were subjected to medical history, clinical examination, and laboratory assessment of fasting blood glucose (FBG), lipid profile, glycosylated hemoglobin (HbA1c), and sCD40L were performed. Results: Mean HbA1c and sCD40L were significantly higher in diabetic children (n = 70) compared to control (n = 25) (P < 0.001 for each). Mean HbA1c and sCD40L levels were significantly higher in microalbuminuric cases (n = 27) compared to normoalbuminuric cases (n = 43) (P < 0.05 and

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