

Expression of CD15 in the bulbar conjunctiva among T2DM patients with ocular surface damage

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Abstract

BackgroundType 2 diabetes mellitus (T2DM) is a chronic metabolic disorder, which induces ocular surface damage due to low-grade inflammation.**Aim**To detect and evaluate relative epithelial expression of CD15 in bulbar conjunctiva among patients with and without T2DM based on results of conjunctival impression cytology (CIC), in order to study its role in conjunctival parainflammation related to T2DM.**Materials and methods**We conducted a prospective observational study from March 2023 to December 2023. Forty-eight T2DM patients (96 eyes) were enrolled into a study group. The control group included forty (80 eyes) age- and sex-matched healthy volunteers. All patients underwent conjunctival impression cytology (CIC) and expression of CD15 in bulbar conjunctiva.**Results**Expression of CD15 was detected on epithelial cells in 95% of samples in the study group and 15% of the controls, is statistically significant ($p = 0.0000$). Mean expression of CD was at $0.96 \pm 1.28\%$, and it was significantly different from the study group with the same Nelson's grade - $3.81 \pm 1.48\%$ ($p = 0.0351$). CD 15 values were significantly higher between Nelson II and III in the study group (3.81 ± 1.48 ; 7.72 ± 1.65 ; $p = 0.0000$, respectively).**Conclusions**The research shows that T2DM patients are prone to increased epithelial expression of CD 15 compared to healthy controls. Relative expression of CD15 may be utilized as a potential marker to evaluate topical treatment outcomes of ocular surface damage in T2DM.

Keywords: CD15; T2DM; conjunctival impression cytology; ocular surface damage; parainflammation.

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Conflict of interest statement

Declaration of conflicting interestsThe authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.