

## Interleukin-6 and Tumor Necrosis Factor- $\alpha$ Levels in Tear Film of Keratoconus Patients

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**Abstract :** Introduction: The present study was carried out to measure the levels of inflammatory markers Interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF- $\alpha$ ) in tear of keratoconus patients and investigate their relationship with the severity of keratoconus. Materials and Methods: This study was performed on 81 patients with keratoconus (cases) and 85 healthy individuals (controls) who were selected through the convenience sampling method from patients visiting the Feiz Ophthalmology Hospital affiliated with the Isfahan University of Medical Sciences. Tear levels of IL-6 and TNF- $\alpha$  were measured after collecting the patient's tears from the lower eyelid through the Schirmer I method using a filter paper (Schirmer tear test strip) without anesthesia. Findings: The mean levels of IL-6 and TNF- $\alpha$  were  $26.77 \pm 8.16$  and  $34.58 \pm 9.82$  in the control group and  $103.22 \pm 51.94$ , and  $183.76 \pm 54.61$  in the case group, respectively, indicating a significant difference between two groups ( $p < 0.05$ ). In addition, there was a significant relationship between the severity of the keratoconus and the mean levels of TNF- $\alpha$  and IL-6 in the case group ( $p < 0.05$ ). Conclusion: According to the results, the mean levels of IL-6 and TNF- $\alpha$  were higher in keratoconus cases than in the controls, and the disease severity was significantly associated with the levels of inflammatory markers IL-6 and TNF- $\alpha$ .

**Keywords :** keratoconus, cataract, tumor necrotic factor, interleukin 6

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