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## Thiol/disulphıde homeostasis in patients with keratoconus by a novel assay

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**Purpose:** We aimed to identify serum thiol/disulphide homeostasis between keratoconus patients and controls.

**Methods:** 28 keratoconus patients and 30 control subjects with similar age and gender were evaluated in the present study. Levels of native thiol, total thiol and disulphide as well as disulphide/native thiol, disulphide/total thiol, native thiol/total thiol were analyzed and compared between keratoconus and control groups using a novel automatized spectrophotometric assay.

**Results:** There were significant differences between keratoconus patients and the control group for native thiol, total thiol and disulphide levels (p: 0.001, p: 0.04, p: 0.03, respectively) as well as disulphide/native thiol and disulphide/total thiol and native thiol/total thiol ratios (p: 0.02, p: 0.01, p: 0.001, respectively). We found no significant correlation between age and all of the thiol/disulphide parameters (p>0.05, all of the values).

**Conclusion:** To best of our knowledge, we have shown for the first time that imbalance of thiol/disulphide homeostasis in keratoconus patients. This metabolic imbalance of thiol/disulphide may play an important role in the pathogenesis of keratoconus and, so, can be discussed in prevention, diagnosis and maybe treatment of keratoconus as well.

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