

## **CENTRAL CORNEAL THICKNESS AND ITS RELATIONSHIP TO PARKINSON'S DISEASE SEVERITY**

**D. Aksoy<sup>1</sup>**, H. Ortak<sup>2</sup>, B. Çevik<sup>1</sup>, E. Çevik<sup>1</sup>, S.G. Kurt<sup>1</sup>

<sup>1</sup>*Department of Neurology;* <sup>2</sup>*Department of Ophthalmology, Gaziosmanpaşa University Faculty of Medicine Department of Neurology, Tokat, Turkey*

**Objective:** Reduced blink rate and dry eye are well known symptoms in Parkinson's disease (PD). However, the effect of PD on corneal thickness is yet unknown. In this study, blink rate, tear break-up time, Schirmer's test and corneal thickness were investigated in PD patients.

**Methods:** 55 Parkinson's patients and 40 healthy individuals matched for age were enrolled. The patients were divided into two groups according to their Hoehn-Yahr (H-Y) scores: H-R 1-2 was designated the 'mild group' and H-R 3-5 as the 'severe group'. All subjects were examined for Blink rate (BR), Tear break-up time (TBUT), Schirmer's test, and Central corneal thickness (CCT) was measured with an ultrasonic pachymeter.

**Results:** The BR, Schirmer's test, TBUT and CCT values of the PD group were significantly decreased compared to the control group. When the mild group was compared to the controls, BR and TBUT values were significantly ( $p < 0.05$ ), but Schirmer's test and CCT values were moderately lower in the mild group ( $p > 0.05$ ). A significant decrease in BR, TBUT, Schirmer's test and CCT was observed in PD patients as the H-Y score increased.

**Discussion:** Reduced blink rate and poor tear quality in the early stages of PD and decreased tear production as the disease progresses can result in reduced CCT. It has been reported that glaucoma incidence is higher in PD patients. CCT has an important factor on IOP measurement in the diagnosis and treatment of glaucoma. The possibility of a thin cornea should be taken into consideration while measuring IOP in Parkinson's patients.