



**CÓRNEA**

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## **PERIPHERAL NEUROPATHY IN PARKINSON'S DISEASE: AN IN VIVO CONFOCAL MICROSCOPY STUDY**

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### **Introduction:**

Peripheral neuropathy (PN) has been described in patients with Parkinson's disease (PD) treated with dopaminergic therapy. Corneal confocal microscopy (CCM) provides *in-vivo* imaging of corneal nerve fibres and has been used to analyse nerves alterations in a variety of ocular diseases, after corneal surgery and in systemic diseases, like diabetes. The purpose of our study is to analyze corneal sensation and whether CCM can detect alterations in corneal nerve morphology in patients with PD.

### **Methods:**

A prospective case-control study was conducted in ten patients with PD (under long-term dopaminergic medication) and ten age and sex-matched healthy subjects. Patients underwent neurological and complete ophthalmological evaluation. Corneal sensitivity testing was performed with a Cochet-Bonnet esthesiometer and corneal subbasal nerve morphology assessment with CCM (Heidelberg Retina Tomograph II/Rostock Cornea Module).

### **Results:**

Patients with PD had decreased corneal sensation in comparison with control group. Corneal nerve fiber morphology differed between the groups: PD patients had lower nerve fiber density, nerve fiber length and nerve branch density and higher nerve tortuosity comparatively to healthy subjects ( $p < 0,05$ ).

### **Conclusion:**

As far as we know, this is the first study to detect corneal subbasal nerve changes in patients with PD. CCM may be used to detect signs of PN and follow patients doing dopaminergic therapy.