

Chronic therapy with amantadine and eye keratopathy relief: observation study in a cohort of patients suffering from Parkinson's disease

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Introduction: Amantadine, initially approved as an antiviral drug, is commonly used for the treatment of dyskinesias in Parkinson's disease (PD). Several studies have found that the amantadine use is rarely associated with a dose-dependent keratopathy. Withdrawal of amantadine in most cases involves a complete clinical regression with the disappearance of corneal edema, although at the ultrastructural level endothelial alterations may persist.

Objective: The objective of our study is to evaluate the effects of amantadine on the cornea in a population of patients with PD on combined therapy including amantadine.

Methods: We selected 76 patients with Parkinson's disease related to Parkinson Unit of AOU Careggi, 51 taking amantadine, and 25 subjects not taking amantadine as control group. All subjects underwent an eye examination including visual acuity assessment, tonometry, endothelial count, tomo-topography, corneal densitometry, and in vivo confocal microscopy (IVCM). The study excluded patients with history of trauma or eye surgery, use of topical eye medications, contact lenses or suffering from glaucoma.

Results: Among the 51 patients selected, 29 meet the criteria for inclusion (F/M=14/15). Of these patients the average age at the evaluation was 67.6±10.2 years with diagnosis of PD between 29 and 81 years. Average duration of therapy with amantadine was 4.2 years (range 1 to 11 years). Amantadine daily dosage was: 100 mg (N=8), 150 mg (N=1), 200 mg (N=16), 300 mg (N=3). About 30 % of patients showed corneal hyperrefractive deposits mainly located at the endothelial level with a pleomorphism and polymegatism detected by the IVCM.

Conclusions: The data collected in our ongoing study show that corneal amantadine toxicity could be related to dose and duration of therapy. Further studies are warranted to assess the possible effect of treatment discontinuation and the long term influence on corneal endothelial cells.