

OBSERVATION OF PERIPHERAL HYPERTROPHIC SUBEPITHELIAL CORNEAL DEGENERATION IN TWO FAMILY MEMBERS BY IN VIVO CONFOCAL MICROSCOPY

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Purpose: To present the structural changes of peripheral hypertrophic subepithelial corneal degeneration (PHSCD) observed by in-vivo confocal microscopy (IVCM) in two family members. **Method:** Two white female patients (a 62-year-old mother and her 40-year-old daughter) were diagnosed with PHSCD in February 2016. They underwent a full ophthalmological examination which included biomicroscopy, corneal aesthesiometry, corneal topography, anterior segment optical coherence tomography (OCT) and IVCM after which the obtained pictures were mounted in 2 large-scale images. **Results:** Both patients complained of moderately decreased visual acuity, bilateral ocular irritation and mild photophobia. Corneal topography identified bilateral corneal (regular and irregular) astigmatism. Slit-lamp examination revealed bilateral nasal and temporal corneal subepithelial fibrosis with a Stocker line. In both cases the right nasal lesions were the largest and presented with a superficial vascularisation resembling a pseudopterygium. Bilateral peripheral corneal subepithelial hyperreflectivity was observed by anterior segment OCT. The IVCM examination revealed extensive homogenous acellular fibrosis with neovascularization extending from the basal epithelium to the anterior stroma. The border between fibrotic and healthy areas was sharply delimited with smooth edges. **Conclusions:** PHSCD is rare corneal degeneration which associates bilateral temporal and nasal peripheral subepithelial fibrosis with neovascularization and corneal astigmatism. It is, to our knowledge, the first report of use of IVCM in PHSCD, which provides precise information on the extent and depth of the affection, very valuable to plan the treatment. Our case report provides additional data in favour of a possible genetic inheritance component of the degeneration. **Financial Disclosure:** No