Age related macular degeneration (AMD) is a degenerative dystrophic disease that goes through several phases in its natural evolution. Its consequences range from minor forms of dry AMD to severe forms of exudative AMD with choroidal neovascularization, in which more serious loss of vision occurs. CNV is a self limiting lesion that grows progressively, producing a serious injury to the retina, until a disciform scar appears. There are different and multiple treatments to stop this disease, but photodynamic therapy is the only one with long term follow up. The clinical results of PDT can be of great interest and potential concern to clinicians as a basis of comparative efficacy of new treatments.

The principal aim of this prospective non randomized clinical trial from Valencia, Spain was to analyze the long term results of patients with exudative age related macular degeneration treated with photodynamic therapy. 262 patients were included with exudative age related macular degeneration who were treated with PDT in accordance with a protocol of the Treatment of Age Related Macular Degeneration with Photodynamic Therapy Study. The follow up lasted 48 months.

There was significant loss of visual acuity 3 months after the first PDT treatment, a slow progressive decrease of vision until month 12, and then visual acuity remained stable from months 24 to 48. The choroidal neovascularization size increased noticeably during the first 12 months, particularly the first 3 months after PDT. The higher the classic component of choroidal neovascularization, the better it responded to PDT. The evolution of juxtafoveal choroidal neovascularization was worse than that of subfoveal choroidal neovascularization after PDT because it grew quickly towards the fovea and visual acuity loss was greater.

The authors conclude that PDT is a safe, long term treatment for exudative age related macular degeneration, but it is not definitive because this treatment cannot stop the initial growth of the choroidal neovascularization lesion. Future studies on long term visual acuity changes for exudative AMD treated with antiangiogenic drugs will show us the difference with PDT treatment for this disease.
Corneal Collagen Cross Linking Using Riboflavin and Ultraviolet-A Light For Keratoconus: One-year Analysis Using Scheimpflug Imaging


There is a mounting evidence of the efficacy of corneal collagen cross linking treatment using photo sensitizer riboflavin and ultraviolet-A(UVA) light with wavelength of 370 nm in halting the progression of keratoconus and post refractive surgery corneal ectasia with minimal toxicity. This study from Grewal Eye Institute, Chandigarh aim to evaluate changes in corneal curvature, corneal elevation, corneal thickness, lens density and foveal thickness after corneal collagen cross linking with riboflavin and ultraviolet-A light in eyes with progressive keratoconus.

This study recruited 102 patients older than 18 years with a corneal thickness of atleast 400 μm diagnosed with progressive keratoconus. All patients had subjective refraction, best corrected visual acuity(BCVA) measurement, Pentacam rotating Scheimpflug imaging and OCT imaging before cross linking and 1 week,1,3 and 6 months and 1 year after cross linking. The mean preoperative BCVA remained stable from preoperative levels in all postoperative visits. The mean spherical equivalent decreased steadily postoperatively to a low of -4.90±3.52D at 1 year. The mean cylinder vector was 1.58×7±3.8D before cross linking and 1.41×24±3.5D, 1 year after cross linking. There was no significant difference in mean measurements between preoperatively and 1 year postoperatively, respectively for Central Corneal Thickness (CCT) (458.9±40μm and 455.2± 48.6μm), anterior corneal curvature (50.6±7.4D and 51.5±3.6D), posterior corneal curvature (-7, 7±1.2D and -7.4 ±1.1D) apex anterior (p=.9), posterior corneal elevation (p=.7), lens density( p=.33) foveal thickness (175.7±35.6μm and 146.4±8.5 μm; p=.1).

Stable BCVA, spherical equivalent, anterior and posterior corneal curvatures and corneal elevation one year after cross linking indicate that keratoconus did not progress. Unchanged lens density and foveal thickness suggest that lens and macula were not affected after UVA exposure during cross linking. Authors admit that this study included limited number of patients with limited follow up. Long term stability, indications and contraindications of riboflavin- UVA collagen cross linking must be evaluated.

Refractive Errors and Strabismus in Children with Down Syndrome: A Controlled Study


Ocular manifestations of Down syndrome have been well described in numerous studies and include eyelid anomalies such as prominent epicanthal folds, upward slanting of palpebral fissures, epiblepharon,
nasolacrimal duct obstruction, blepharitis, keratoconus, retinal abnormalities, glaucoma and amblyopia due to strabismus, refractive errors, and media opacities. However in all these studies an appropriate control group was lacking and the authors compared their findings with previous normative studies. In this study authors from Boston aim to evaluate the prevalence of refractive errors, strabismus, nystagmus and congenital cataract in children with Down syndrome and control subjects of similar age and socioeconomic group.

Seventy seven children with Down syndrome and 151 control subjects were evaluated for the prevalence of ocular findings. The diagnosis of Down syndrome was made through clinical and genetic findings. All children underwent cycloplegic auto refraction, retinoscopy, or both, slit lamp biomicroscopy and detailed fundus examination. Ocular movements were checked and ocular alignment was assessed by Hirschberg corneal reflex test, Krimsky prism test or prism cover test. Ocular findings were discovered in 97.4% of children with Down syndrome and 42.4% of control subjects (p<.0001). The point prevalence of nystagmus, strabismus, hypermetropia, astigmatism and congenital cataract was significantly higher in children with Down syndrome (p<.0001 for first four categories, and p<.01 for congenital cataract).

The authors conclude that evaluation, treatment and regular review of ocular and refractive findings in children with Down syndrome is essential and likely to significantly enhance the quality of life of individuals with Down syndrome.