

# Highlights from this issue

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Harminder S Dua and Arun D Singh, *Editors-in-Chief*

## Latanoprost and malignant melanoma

Tressler *et al* determined if there is any association between the use of latanoprost ophthalmic solution and malignant melanoma by reviewing two safety databases: one representing all latanoprost (n1/424) and fixed-combination latanoprost/timolol (n1/416) clinical trials and a global safety database of all non-trial-related clinical reports (1992–2007). Among 12 880 latanoprost-treated subjects in clinical trials, no case of ocular melanoma and three cases of cutaneous melanoma were identified. Of 19 940 cases recorded in the global safety database, 22 reports of ocular/cutaneous neoplasms were identified. In vitro and in vivo data indicate that latanoprost stimulates melanin synthesis by induction of tyrosinase transcription without increasing mitotic activity. The authors conclude that there is no evidence to link latanoprost use and risk of ocular or cutaneous melanoma (*see page 1490*).

## Collagen cross-linkage for keratoconus

O'Brart *et al* performed a randomised study to investigate the efficacy of riboflavin/ultraviolet A corneal collagen cross-linkage to halt the progression of keratoconus in 24 patients with bilateral keratoconus (mild/moderate; recent progression). One eye of each patient was randomly assigned to treatment, while the other served as a control. At 18 months, Orbscan, keratometry and wave-front measurements showed significant reductions from baseline in treated compared with untreated eyes. The best spectacle-corrected acuity improved in treated eyes. Other than transient recurrent corneal erosions in one treated eye, there were no complications (*see page 1519*).

## Autologous cultivated limbal epithelial transplantation

Sangwan *et al* reported on the efficacy of xeno-free autologous cell-based treatment of limbal stem-cell deficiency in 200 patients with unilateral ocular surface burns. A small limbal biopsy was obtained from the unaffected eye, and the limbal epithelial cells were expanded ex vivo on human amniotic membrane for 10–14 days using a xeno-free explant culture system. The cultured epithelial monolayer and amniotic membrane substrate were then transplanted onto the affected eye. A completely epithelised, avascular and clinically stable corneal surface was seen in 71% eyes at a mean follow-up of 3 years (*see page 1525*).

## Reoperation of idiopathic full-thickness macular

D'Souza *et al* reported on the efficacy of reoperation in 491 patients with persistent or recurrent idiopathic full-thickness macular hole after initial surgery with internal-limiting-membrane peel. The anatomical closure rate was 89% for primary surgery and 47% for reoperation. There was a significant improvement in overall best spectacle-corrected acuity from reoperation baseline. For holes that did not close after the second surgery, the visual acuity did not worsen (*see page 1564*).

## Progressive retinal axonal degeneration in multiple sclerosis

Garcia-Martin *et al* quantified structural and functional degeneration in the retinal nerve fibre layer of 166 patients with multiple sclerosis and 120 healthy controls over a 2-year time period. They observed greater changes in multiple sclerosis patients than in healthy controls. Patients with multiple sclerosis relapses showed a greater reduction in retinal nerve fibre layer thickness and visual evoked potential

amplitude compared with non-relapsing cases. Patients with and without treatment showed similar changes (*see page 1577*).

## Visual acuity in ocular syphilis

Balaskas *et al* assessed statistical associations between baseline clinical and laboratory parameters with visual acuity at presentation and with the change in visual acuity after treatment based upon data derived from 26 patients (42 eyes) with ocular syphilis. Worse initial visual acuity was related to severity of visual-field impairment, macular oedema and optic neuropathy. An improvement in best-corrected visual acuity after treatment was significantly associated with the presence of vasculitis on fluoroangiography, presence of neurosyphilis and anterior uveitis. They also observed that any delay in therapy increased the risk of subsequent relapse (*see page 1568*).

## Influence of oxygen on retinal blood-vessel growth in rat pups

Dhaliwal *et al* developed a physiology-based rat model to study the effect of growth restriction and oxygen on early retinal vascular development in rat pups. Rat mothers were fed either a normal (18% casein) or low- (9% casein) protein diet (to cause pup growth restriction) from the last week of gestation. After birth, mother and pups received either room air or fluctuating hyperoxic oxygen (similar to premature infants who develop severe retinopathy of prematurity). On day 14, retinas were dissected, and the avascular areas of the retinas were measured. Growth-restricted rat pups had significantly larger retinal avascular areas than normal pups. Growth-restricted rat pups raised in fluctuating oxygen had significantly larger retinal avascular areas than growth-restricted rat pups raised in room air (*see page 1592*).