

CAUTION CONCERNING SCANNING LASER POLARIMETRY

Scanning laser polarimetry is designed to assess the peripapillary nerve fibre layer thickness in vivo. In experimental and clinical studies its ability to provide quantitative reproducible measurements of the retinal nerve fibre layer has been demonstrated. However, concern has been raised as to whether it is accurate in assessing the retinal nerve fibre layer thickness in nasal and temporal regions. Monteiro and coworkers studied 19 eyes of 17 patients with band atrophy of the optic nerve and temporal hemi defects due to chiasmal compression. Scanning laser polarimetry was able to identify axonal loss in the superior, inferior, and nasal regions but failed to detect it in the temporal region of the optic disc despite this area showing clear band atrophy. Moreover, the authors found there was poor sensitivity to detect axonal loss in the nasal region when the GDx software analysis was used. The authors caution the interpretation of laser polarimetry studies of the nasal and temporal areas of the peripapillary nerve fibre layer.

See p 32

IS BOTULINUM TOXIN A GOOD TREATMENT FOR DRY EYE?

Botulinum toxin A injections are now used for a number of diverse medical conditions. It is a well established treatment for blepharospasm. Many patients with blepharospasm suffer from dry eye symptoms. It has been suggested that botulinum toxin A injections may increase tear secretion and decrease dry eye symptoms in patients with blepharospasm. Horwath-Winter studied 16 patients with blepharospasm. All of them complained of dry eye symptoms and had reduced tear break up times. The patients were studied 1 week, 1 month, and 3 months after botulinum toxin treatment. All patients were relieved of symptoms of blepharospasm after botulinum toxin injections but only three of the 16 noticed an improvement in dry eye symptoms. Eight patients noticed no difference and five

complained of worsening. The authors suggest that blepharospasm and dry eyes are two independent diseases that can occur simultaneously and that botulinum toxin A does not provide relief for dry eyes in this clinical circumstance.

See p 54

VIGABATRIN REDUCES OCULAR BLOOD FLOW

Vigabatrin (gamma-vinyl GABA) is a novel drug that is used primarily in the management of partial complex seizures and infantile spasms. The drug is especially effective in these difficult seizure disorders. Unfortunately, recent reports have documented that a significant number of patients taking vigabatrin develop permanent visual field damage as a result. Reduced cerebral blood flow and decreased glucose metabolism have been identified in patients with epilepsy receiving vigabatrin. Hosking and coworkers studied 11 controls and 17 patients with epilepsy, of which 10 were either currently or previously treated with vigabatrin. They demonstrated that the vigabatrin patients, as well as conventionally treated patients with epilepsy, exhibited significantly reduced ocular blood flow compared with controls. A more pronounced reduction in ocular blood flow was apparent in the vigabatrin treated versus conventionally treated patients with epilepsy. The authors suggest that this reduction in ocular blood flow may have implications for understanding the pathophysiology of visual dysfunction that is associated with the use of viagabatin.

See p 96

IMPLICATION OF PERICYTE RECRUITMENT IN HUMAN CORNEAL ANGIOGENESIS

Pericytes are blood vessel wall encircling cells consisting of thin processes and a prominent nucleus embedded in the basement membrane surrounding capillaries. Pericyte coverage is an essential step in the maturation of new blood vessels. Cursiefen and coworkers studied vascularised human corneas obtained by keratoplasty with electron microscopy to assess pericyte coverage in new blood vessels. They studied 196 blood vessels and demonstrated that 87% were covered by pericytes. Pericyte recruitment increased with time and the onset of corneal neovascularisation to time of keratoplasty. The authors conclude that pathologically new vessels in human corneal angiogenesis are rapidly covered by pericytes. Therefore, therapeutic strategies aimed at regression of immature blood vessels not yet covered by pericytes will have to be applied very early in the course of corneal neovascularisation.

See p 101

IS CAR DESIGN EVIDENCE BASED?

Many newer cars are equipped with high intensity headlights that are brighter, more energy efficient, and last longer than conventional incandescent headlights. They are said to allow their owners to detect road hazards, signage and pedestrians at a greater distance from standard equipment. However, Mainster and Timberlake point out that these new headlights are particularly troublesome for older drivers facing these lights. This appears to be caused by the older drivers' increased intraocular light scatter, glare sensitivity, and photo stress recovery time. The authors emphasise that the brightness of these new headlights rather than the blueness is the primary reason for visual problems associated with them. The authors recognise the increased safety for drivers of cars with HID headlights. They suggest that there are better headlight systems that could address the problem of glare and yet provide increased illumination for drivers. They suggest that polarising headlight systems are perhaps the best solution to the highway glare problem.

See p 113