New Questions – New Answers

Association of *TNFA* –308 G/A and *TNFR1* +36 A/G Gene Polymorphisms with Glaucoma

Razeghinejad et al., Shiraz, Iran

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TNF- α is one of the most important factors recognized in the pathogenesis of open-angle glaucoma. Therefore, the authors investigated the association of single nucleotide polymorphisms in the *TNFR1* gene and the promoter region of *TNFA* gene in patients with glaucoma. Two hundred and twenty-three patients with glaucoma and 202 unrelated controls were genotyped by ASO-PCR and PCR-RFLP to determine the *TNFA* –308 G/A and *TNFR1* +36 A/G polymorphisms. Interestingly, in contrast to the *TNFR1* polymorphism, the genotypes of *TNFA* –308 G/A polymorphisms showed a significant difference between glaucoma patients and controls ($p = 0.0025$). It is of interest that the distribution of *TNFA* genotypes were significantly different between patients with primary open-angle glaucoma ($p = 0.001$) and individuals with pseudoexfoliative glaucoma ($p = 0.001$) and controls. In contrast, there was no difference found when chronic angle-closure glaucoma patients were compared to controls ($p = 0.72$). The authors conclude that the *TNFA* –308 A allele might be a susceptibility factor for the development of open-angle glaucoma.

Extraction of a Chronically Implanted, Microfabricated, Subretinal Electrode Array

Chen et al., Boston, Mass., USA

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Subretinal electrode arrays are a potential new application for future treatments in retinal disorders. The authors assessed the feasibility of extraction of such implants. The study was performed in 8 rabbits that underwent an external implantation of polyimide strips into the subretinal space. Pre- and postoperative clinical examinations, electroretinography and optical coherence

tomography were performed to follow these eyes. Two months after implantation, the polyimide strips were extracted from 5 eyes; 2 animals maintained the implants and served as controls. All 8 implantations were successful, and implanted arrays remained in a stable position. All 5 extractions could be performed without complications or damage to the retina. Clinical examinations and electroretinography did not reveal any significant abnormalities. On histological examination, the eyes undergoing explantation demonstrated only mild and circumscribed alterations of the retina. It can be concluded that electrode arrays can be successfully extracted from the subretinal space, even several months after implantation.

Development of a *Streptococcus pneumoniae* Keratitis Model in Mice

Moore et al., Jackson, Miss., USA

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Streptococcus pneumoniae is a common cause of bacterial keratitis. Models to examine the ocular pathogenesis of this bacterium would be helpful to better understand the pathophysiology and treatment options of pneumococcal keratitis. Therefore, the authors established a murine model of pneumococcal keratitis. Briefly, the corneas of A/J, BALB/c or C57BL/6 mice were scratched and topically infected with a clinical strain of *S. pneumoniae*. Slit lamp examination (SLE), enumeration of the bacteria in the corneas and histology were performed. The authors could recover bacteria from all eyes of A/J mice on postinfection (PI) days 1 and 3. SLE scores were significantly higher in the infected A/J mice as compared to the BALB/c or C57BL/6 mice on PI day 3, and steadily increased over time. Histopathology revealed stromal edema and the influx of polymorphonuclear leukocytes on PI days 7 and 10 and corneal disruption on PI day 7. In conclusion, the investigators have established a useful model of *S. pneumoniae* keratitis.

Uwe Pleyer, Editor-in-Chief