**Can Aspirin Be Protective against Steroid-Induced Cataract?**

Yan et al.: Protective Effect of Aspirin against Dexamethasone-Induced Cataract in Cultured Rat Lens
Ophthalmic Res 2006;38:303–308

Glucocorticoids are well-known to induce secondary lens changes. In this study, the authors wished to determine if aspirin was able to inhibit steroid-associated lens opacification. Using an in vitro induced cataract model, rat lenses were treated either with dexamethasone 10 μmol, or dexamethasone combined with 2 mM acetylsalicylic acid and compared with controls.

In the presence of aspirin, the authors found a statistically significant inhibition of nuclear opacity. Further evaluation of lens sections using electron microscopy demonstrated abnormal changes in lens fiber cells, including disrupted arrangement of fibers. Interestingly, dexamethasone displayed a time-dependent inhibition of lens enzyme activities, in particular for catalase and superoxide dismutase which could be significantly inhibited in the presence of aspirin. The authors conclude that their data support the idea that cataract induced by dexamethasone is associated with decreased enzyme activity. In addition, the results implicate that aspirin may be effective against cataract through inhibition of antioxidative activity.

**Can We Modulate Cataract Development in Diabetic Individuals?**

Padival et al.: Pyridoxamine Inhibits Maillard Reactions in Diabetic Rat Lenses
Ophthalmic Res 2006;38:294–302

Diabetes is a frequent cause of accelerated cataract formation. Advanced glycation end products (AGEs) are known to accumulate in tissues of diabetic individuals, including the human lens. The lens has been of particular interest since AGEs found there are in unusual abundance probably because lens proteins have an exceptionally long half-life. Several pharmacological agents including pyridoxamine (PM) have been tested for their in vitro and in vivo AGE-inhibiting properties.

Using a rat lens organ-culture model, the authors investigated whether PM could inhibit AGE formation in the diabetic lens. They measured lens AGEs and relevant biochemical mediators including glutathione and the activities of aldose reductase and glyoxalase in normal and diabetic rat lenses. The results of this study showed that PM failed to block cataract development. However, PM treatment was able to prevent to some extent AGE formation probably by enhancing the activity of aldose reductase and reacting with precursors of AGEs.

**Can the Prognosis for Large Uveal Melanomas Be Improved by Adding Transpupillary Thermotherapy to Proton Beam Radiation?**

Desjardins et al.: Combined Proton Beam Radiotherapy and Transpupillary Thermotherapy for Large Uveal Melanomas: A Randomized Study of 151 Patients

Although proton beam irradiation of uveal melanoma has become an effective treatment approach, secondary complications are frequently seen. Exudation from the irradiated tumor and glaucoma can be major problems that may lead to secondary enucleation up to 8%. Even though previous anecdotal reports suggested that transpupillary thermotherapy (TTT) may be used as adjunct therapy to prevent these complications, there are few valid data available on this approach.

Therefore, the authors conducted this first prospective, randomized study comparing proton beam radiotherapy alone (60 Gy) with combined TTT treatment.

The results of this large-scale study involving 151 patients demonstrated that patients treated with the combined approach not only showed a greater reduction in tumor thickness, but also led to a significantly lower secondary enucleation rate. Overall, the authors concluded that TTT combined with proton beam radiotherapy offers a significant benefit particularly in patients with large tumors and provide a better long-term preservation of the eye. However, further studies are suggested to investigate whether TTT is beneficial also for smaller tumors and to define an optimal treatment protocol.

_Uwe Pleyer, Editor-in-Chief_