

Advances in Drug Delivery

As evidenced by the number of abstracts and posters on drug delivery that were presented at the 2010 Association for Research in Vision and Ophthalmology meeting, the science of delivery of pharmaceuticals to the back of the eye is clearly a burgeoning field in the subspecialty of retina. Goals in drug delivery research include targeting therapy for maximum or minimal effect on collateral tissue, creating a depot system that would offer sustained therapy with single administration, reducing the physical burden on patients and physicians (eg, frequent intravitreal injections), and reducing associated costs.

As of this printing, there are three US Food and Drug Administration-approved therapies that provide sustained posterior-segment drug delivery. The first is the ganciclovir implant (Vitrasert, Bausch + Lomb), approved for cytomegalovirus retinitis; the second is approved for uveitis (intravitreal fluocinolone acetonide 0.59 mg implant; Retisert, Bausch + Lomb) and the third is approved for the treatment of retinal vein occlusion (intravitreal dexamethasone 0.7 mg; Ozurdex, Allergan, Inc.). Additionally, several

modes of delivery are being evaluated in the preclinical and clinical trial setting to determine safety and efficacy. In this issue of *Retina Today*, we feature several articles that discuss all of the above in detail.

There are many factors that contribute to the safety and efficacy of a therapy. With delivery mechanisms, those factors can be compounded by the act of delivering the device itself (ie, surgical implantation, injection). To address these topics, our cover focus includes articles that discuss the vehicles themselves and associated complications.

It is likely that we may find ourselves using more combination treatments in the future, and it is hoped that we will find ways to help reduce the frequency with which we administer anti-vascular endothelial growth factor and corticosteroid injections. Additionally,

although further along in development, topical therapies provide an exciting alternative to invasive procedures. Articles in this issue also address these topics. As clinical research progresses, the selection of options from which we have to choose for our patients widens and patient outcomes improve. ■



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