Refraction Surgery: New Challenges

We are now beginning the second year for the Journal of Refractive Surgery. In just one year it has already gained the reputation of leader in its field, as within its pages can be found high quality scientific articles on all aspects of corneal refractive surgery. A major advantage of a new subspecialty journal is that articles can be published in a timely manner. In a field that is developing as rapidly as refractive surgery, it is essential that sound scientific information be disseminated rapidly to allow its clinical implementation, which in turn serves to further refine and develop the subspecialty in as short a time as possible. I believe the Journal has done an excellent job in fulfilling these goals and both the editor, James J. Salz, M.D., and the publisher, Slack, Inc., are to be heartily congratulated.

For better or for worse, medicine, and ophthalmology in particular, is undergoing rapid change. There is increasing regulation as to how we practice, the imposition of limitations and reductions on fees by third party carriers, rapid proliferation of health maintenance organizations, and rapid development of expensive technology. These and other developments may change the way many of us will practice ophthalmology in the future. In parallel with these changes has been the rapid growth of our subspecialty, refractive surgery, and this has led to a plethora of new courses and meetings. As most refractive surgeons are anterior segment surgeons, this has placed a burden on many of our colleagues over the past few years, as we have attempted to keep abreast of developments not only in cataract and corneal surgery, but also in refractive surgery. With the advent of subspecialty meetings, the practitioner may find that he/she must attend several meetings a year, in addition to the annual meeting of the American Academy of Ophthalmology, in order to keep abreast of the field. One also finds considerable duplication and overlap at these meetings both in subject matter and speakers. In light of these aforementioned changes underway in ophthalmology, I believe this approach will become progressively more undesirable.

As an alternative to this dilemma, many anterior segment surgeons believe that much of the information we seek can be condensed into a smaller number of highly organized meetings. This will eliminate duplication and allow all of us to obtain a maximum of information with a minimum of time and expense. This benefit, of course, will extend also to industrial exhibitors. To this end, as a trial, the International Society of Refractive Keratoplasty (ISRK) held its annual meeting in conjunction with the Contact Lens Association of Ophthalmology (CLAO) in Las Vegas, Nevada, in January 1986. This joint venture proved to be very rewarding for all concerned, as it demonstrated the efficacy of such an approach. In addition to the symposia, there were also a large number of practical courses covering all areas of refractive surgery, which were directed by leaders in the field. Based on the success of this joint venture, ISRK and CLAO will repeat this arrangement next year as a mid-winter meeting, and they are presently discussing the possibility of more significant collaboration in the future.

It has been almost a decade since the Barraquer procedures for spherical errors were introduced into the United States in 1977. After several years of relatively slow and cautious growth, refractive surgery underwent a burst of enthusiasm several years ago when both trapezoidal and radial keratotomy, and epikeratophakia, began to be practiced on a more widespread basis than the Barraquer procedures. It appeared that we may have had the solutions for correcting the whole gamut of refractive errors in techniques that could be applied by the majority of anterior segment surgeons. We have now had the benefit of several years of clinical investigation and have found these procedures efficacious, though certainly with their disadvantages.

The trapezoidal keratotomy may be less quantifi-
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able than we had initially hoped, and it has been shown to produce considerable subjective symptoms in some patients. Radial keratotomy continues to demonstrate inaccuracy in some cases, and though we have had our fears lessened with respect to long-term endothelial damage, we now have discovered a new problem—intermediate-term progressive hyperopia and instability in a significant percentage of cases. Epikeratoplasty has also been accompanied by inaccuracy and instability in addition to delayed visual rehabilitation and the possibility of reduced final acuity, just as was found with the Barraquer procedures.

We have, it appears, reached a new plateau in refractive surgery. We have accumulated a reasonable amount of data on most refractive procedures, and we have now identified the problems with the existing techniques. New approaches are at hand, and we must now critically evaluate the application of the planar non-freeze approach, allplastic keratoplasty, and lensectomy with IOL for very high myopia, in addition to newer techniques for the correction of astigmatism. We are at a stage where we must assess and refine our indications and contraindications for refractive surgery and, through collaborative effort, devise solutions to the problems that we have identified. This, in essence, distills for us the meaning of our Society and our Journal.

I eagerly look forward to serving as your president for this next year and to implementing some of the concepts described in this editorial during my term of office. In addition, I ask all of you, more than ever, for your continued support and dedication to our Society, our Journal, and our subspecialty, refractive surgery.

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President, International Society of Refractive Keratoplasty

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INDICATIONS AND USAGE: A steroid/anti-infective combination is indicated for steroid-responsive inflammatory ocular conditions for which a corticosteroid is indicated and where bacterial infection or a risk of bacterial ocular infection exists.

Ocular steroids are indicated in inflammatory conditions of the palpebral and bulbar conjunctiva, cornea, and anterior segment of the globe where the inherent risk of steroid use in certain infective conjunctivitis is accepted to obtain a diminution in edema and inflammation. They are also indicated in chronic anterior uveitis and corneal injury from chemical, radiation, thermal, burns, or penetration of foreign bodies.

The use of a combination drug with an anti-infective component is indicated where the risk of infection is high or where there is an expectation that potentially dangerous numbers of bacteria will be present in the eye.

The particular anti-infective drugs in this product are active against the following common bacterial eye pathogens: Staphylococcus aureus; Escherichia coli; Hemophilus influenzae; Klebsiella; Enterobacter species; Neisseria species; and Pseudomonas aeruginosa.

The product does not provide adequate coverage against: Serratia marcescens; Streptococci, including Streptococcus pneumoniae.

CONTRAINDICATIONS: Epithelial herpes simplex keratitis (dendritic keratitis), vaccinia, and many other viral diseases of the cornea and conjunctiva. Mycobacterial infection of the eye. Fungal diseases of the corneal structures. Hypersensitivity to a component of the medication. (Hypersensitivity to the antibiotic component occurs at a higher rate than for other components.)

The use of these combinations is always contraindicated after uncomplicated removal of a corneal foreign body.

WARNINGS: Prolonged use may result in glaucoma, with damage to the optic nerve. defects in visual acuity and fields of vision, and posterior subcapsular cataract formation. Prolonged use may suppress the host response and thus increase the hazard of secondary ocular infections. In those diseases causing thinning of the cornea or sclera, perforations have been known to occur with the use of topical steroids. In acute purulent conditions of the eye, steroids may mask infection or enhance existing infection. If these products are used for 10 days or longer, intraocular pressure should be routinely monitored even though it may be difficult in children and uncooperative patients. Employment of a steroid medication in the treatment of herpes simplex requires great caution.

There exists a potential for neomycin sulfate to cause cutaneous sensitization. The exact incidence of this reaction is unknown.

PRECAUTIONS: The initial prescription and renewal of the medication order beyond 20 milliliters should be made by a physician only after examination of the patient with the aid of magnification, such as slit lamp biomicroscopy and, where appropriate, fluorescein staining. The possibility of persistent fungal infections of the cornea should be considered after prolonged steroid dosing.

ADVERSE REACTIONS: Adverse reactions have occurred with steroid/anti-infective combination drugs which can be attributed to the steroid component, the anti-infective component, or the combination. Exact incidence figures are not available since no denominator of treated patients is available.

Reactions occurring most often from the presence of the anti-infective ingredients are allergic sensitizations. The reactions due to the steroid component in decreasing order of frequency are: elevation of intraocular pressure (IOP) with possible development of glaucoma, and infrequent optic nerve damage; posterior subcapsular cataract formation; and delayed wound healing.

Secondary Infection: The development of secondary infection has occurred after use of combinations containing steroidal and antimicrobials. Fungal infections of the cornea are particularly prone to develop coincidently with long-term applications of steroid. The possibility of fungal invasion must be considered in any persistent corneal ulceration where steroid treatment has been used.

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