Oral administration of antigen in the treatment of eye disease

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introduced into the vitreous. All of the techniques for maintaining asepsis in the operating room are directed towards preventing such an event from occurring, but non-postoperative forms of endophthalmitis are exempt from these precautions. The third and perhaps most important issue affecting visual outcome is the time lapse between the onset of symptoms and clinical diagnoses and the initiation of aggressive appropriate therapy. Paradoxically, time is the only factor over which the clinician has a small measure of control. The faintest suspicion that the patient is developing endophthalmitis should lead to the immediate institution of a standardised diagnostic and treatment protocol such as the one described by Okhravi and colleagues in this issue.

Admittedly, there are still questions regarding the standard of therapeutic care. Are systemic antibiotics really necessary for the treatment of endophthalmitis? Has the question of when to do a vitrectomy been definitively answered? In spite of the results of the Endophthalmitis Vitrectomy Study these grey areas of clinical judgment continue to weigh heavily on clinicians. Perhaps it is the complexity of endophthalmitis itself that prevents a standard protocol from being devised that can consistently produce a satisfactory visual outcome in this group of patients that are so difficult to treat. Unfortunately, even in the best of hands the results are still frustrating and the ideal treatment for endophthalmitis remains elusive.

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did patients fed placebo, although the authors urged caution in interpreting the results because differences in clinical indices of disease activity did not reach statistical significance. In a trial of oral administration of avian collagen type II for rheumatoid arthritis, treated patients showed significant clinical improvement compared with controls. Oral administration of a dust mite extract to asthmatic patients sensitive to this allergen resulted in improvement in a variety of objective measures of disease status. Trials of oral administration of uveitogenic retinal antigen preparations in patients suffering from recurrent uveitis have recently been reported and are tentatively supportive of this approach. Overall, the available evidence indicates that oral tolerance may be a useful therapeutic option in some clinical situations.

Assuming oral administration of antigen does tolerate in the clinical setting, what might constitute a clinically applicable protocol in the context of human corneal transplantation, and is such a protocol actually necessary? The second question is straightforward; corneal graft rejection is the major cause of corneal graft failure in large, longitudinal clinical studies and is a particularly important cause of graft loss in patients with a history of inflammatory eye disease. A non-toxic, non-pharmacological alternative or adjunct to existing immunosuppressive drugs for the prevention of corneal graft rejection would be of major interest. How could feeding of donor corneal antigen be accomplished in practice? The use of immortalised skin or keratinocytes harvested from corneal donor skin would require extension of current donor consent procedures and presupposes that all important donor-specific donor would be cumbersome and logistically difficult. The ethical use of keratinocytes harvested from corneal donor skin would require extension of current donor consent procedures and presupposes that all important tolerising epitopes relevant to the cornea are represented in skin. Although the work of Niederkorn and his colleagues strongly implicates major and/or minor histocompatibility complex antigens as the polymorphisms of importance in oral administration of antigen for experimental corneal transplantation, every reader will be aware of the controversy that has surrounded the role of HLA matching for clinical corneal transplantation. Whether synthetic major histocompatibility complex allopeptides could be used as a source of antigen for inducing oral tolerance to corneal grafts is unclear, but possibly worthy of further experimentation. Such a regimen would, however, require HLA typing of donor and recipient so that appropriate tolerising peptides could be selected for oral administration.