INTRODUCTION

Since the introduction of intraocular lenses in cataract surgery , the demand has increased for a substance which can prevent direct contact between the intraocular lens and the corneal endothelium. Momentary contact between the corneal endothelium and a polymethyl-methacrylate intraocular lens disrupts the endothelial cell membrane, resulting in marked irreversible cell damage (*Kaufman, 1976*).

The past decade has seen the development of the endothelial specular microscope (*Laing, R.A. et al 1975, Bourne, W.M. and Kaufman, H.E. 1976*) . This instrument led to the realization that corneal endothelial cells are almost entirely incapable of cell division, and that healing of corneal endothelial wound can take place only by means of enlargement and sliding of the remaining cells (*Hoffer, K.J.and Philippi, G. 1978*).

The recognition of this fact fostered a new thinking in ophthalmic microsurgery . Utmost care with respect to the endothelium of the cornea became the low , particularly when a cataract operation was combined with the implantation of an artificial lens. Rules developed to which ophthalmic surgeons should strictly adhere : as little bending of the cornea as possible (*Norn, M.S. 1971*) ; as little irrigation by an irrigating solution as physiological as possible (*Edelhauser, H.F. et al 1976 , Edelhauser, H.F. et al 1978*); absolute avoidance of contact between instruments and the endothelium , and most important, between the artificial lens and the endothelium (*Kaufman, H.E. and Kratz, J. 1976 Kaufman, H.E. and Kratz, J. 1977*).

To lessen the danger of contact between the intraocular lens and the cornea , Binkhorst et al in 1978 recommended the air cushion technique . Air tends to leave the anterior chamber quickly , however , and to prevent that happening ,viscoelastic substances were introduced .

For the last few years, viscoelastic substances were used in anterior segment surgery particularly in cataract extractions and intraocular lens implantations. The most widely used among these substances is Sodium-hyaluronate derivatives, the most popular of which is Healon. Healon, although a very effective material, yet , it is very expensive and it is not readily available in many developing and underdeveloped countries.

The needs are great for other substances which could be less expensive , universally available , and can be easily prepared for intraocular use ; one of these substances is hydroxypropyl methylcellulose .