Deep lamellar keratoplasty (DLKP) is challenging yet rewarding choice of surgery for keratoplasty patients who have a healthy endothelial cell count (**Sugita and Kondo ,1997).**Penetrating keratoplasty (PKP) in these patients is not only unnecessary, but places the graft at risk of endothelial rejection, which can occur in approximately 20% of cases **(Kirkness et al.,1990**).

Many surgeons still do not choose DLKP because of its technical difficulty and long surgery time. Techniques such as intrastromal air injection or segmental removal of host stroma improve surgical safety **(Tsubota et al.,1998)**. However, DLKP is time consuming when host tissue is removed layer by layer until the Descemet membrane (DM) is exposed. Recently, revolutionary techniques have allowed for a dramatic decrease in surgery time as well as an improved success rate of achieving a “true” DLKP procedure down to the DM **(Fogla and Padmanabhan ,2005)**.

There is also a need to establish the proper indications for DLKP. Keratoconus is certainly a good indication.However, cases with scarring of DM may affect visual outcome even if the procedure can be completed successfully.Hereditary dystrophies of the stroma are also candidates.Ocular surface diseases such as

chemical and thermal burns are good indications once reconstruction of the epithelium is achieved, and residual opacification of the stroma requires treatment **(Yao et al., 2002)**. DLKP is especially effective in such patients with vascularized corneas, and who are thus at high risk of endothelial rejection **(Shimmura et al., 2003).**

Although the long-term results of DLKP are awaited for definitive conclusions to be reached, the available data to date show that DLKP can indeed be the ideal choice of surgery for patients with healthy endothelium. Improvement in surgical technique, especially in terms of exposing the DM, should spread the technique to a wider population**(Fogla and Padmanabhan ,2005)**.