

Summary

Review of indications for penetrating keratoplasty over the past 25 years in the western world revealed keratoconus as the third most frequent corneal disease after pseudophakic bullous keratopathy and regrafting indicated for this procedure. Even in regrafted corneas this disease was the third most frequent reason for the first graft. This fact inevitable is leading to psychological problems and financial stress of patients. It influences the quality of their life and well-being negatively.

Despite good results of the analyzed cohorts published to date in the literature concerning corneal cross-linking, the maximal number of analyzed eyes was still only 23 in a short follow-up time. This of course limits the statistical validity.

Our work analyses a cohort with greatest number of eyes and the longest follow-up time published in the literature to date. It allows evaluating the effect of this procedure and its possible side effects.

The study confirmed longstanding effects of corneal cross-linking in keratoconus patients such as regression of K_{max} values, K values of the apex of keratoconus and astigmatism.

Seventy percent of the patients showed a stable visual acuity and 50% even gained at least one line more.

We recorded few complications of this procedure in early postoperative period such as persistent epithelial defect, corneal infection and also long-term side effect as stromal haze of the cornea and we analyzed possible preoperative variables influencing this condition.