Commentary: Timing of therapeutic keratoplasty

Studies have proven that fungal keratitis is always more difficult to treat as compared to bacterial keratitis and is 5 times more likely to perforate thus requiring therapeutic keratoplasty more often.[1-3] Presence of certain factors at the time of baseline presentation like hypopyon, deep infiltrate, larger size, older patients, delayed referral, steroid use, poor vision, central location, limbal involvement, positive microbiology, and growth of Aspergillus are suggestive of a poorer outcome.[4,5] Additionally, culture positivity on repeat culture, 6 days post commencement of appropriate therapy has also been reported to double the risk of perforation.[6] Therapeutic keratoplasty (TPK) thus becomes a valuable tool in such a scenario with the aim being to eliminating the focus of infection and restoring the integrity of the globe. However, recurrence of infection in the graft is not uncommon. Presence of prior hypopyon, corneal perforation, lens, and limbal involvement are some of the predisposing factors for such a scenario.[7]

Compared to the magnitude of the condition in developing countries like India, the literature is sparse about the disease. While recent trends in lamellar keratoplasties like Deep anterior lamellar keratoplasty (DALK), Descemet stripping automated endothelial keratoplasty (DSAEK) and Descemet membrane endothelilal keratoplasty (DMEK) are often discussed extensively in multiple sessions in the national conferences, the subject of TPK does not get the amount of attention it deserves. Hence, the present study (1952_18) on the outcomes of TPK for fungal keratitis is a welcome addition to the existing literature on the subject. In this retrospective, observational study of 198 eyes that underwent TPK in a span of 3 years, involving patients with significantly advanced fungal keratitis, 97% of their patients had a good anatomical restoration. However, as one would expect, only 4% grafts maintained clarity after 5 years. The authors in this study advocate an early TPK in recalcitrant cases and postulate that it may lead to better outcomes.[8]

The eye banking facilities in India have improved dramatically in the last few decades due to a combination of factors including public awareness, support from philanthropic organizations like the Lions Clubs and the Rotary Clubs, working in tandem with the governmental and nongovernmental agencies. Eminent ophthalmologists in our country have played a dynamic role to create this environment in our country with zeal and enthusiasm. We must remind ourselves, that even today, in certain countries, evisceration is being performed to relieve the severe pain associated with fungal keratitis, because donor tissue is not available. Many states in our country have reached a stage where there is no dearth of availability of therapeutic grade corneas. This scenario is very welcome in our country, since many of the patients with corneal ulcers still reach an ophthalmologist, much later in the course of the disease.

The documentation of the ulcer progression should be carefully monitored at frequent intervals. It may make sense to consider performing therapeutic keratoplasty at the first instance of non-responsiveness to appropriate and adequate medical therapy, then to wait for the situation to worsen further. Effective counselling to moderate patient expectations and to ensure proper follow up is very important for the ultimate success.

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Conflicts of interest

There are no conflicts of interest.

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References

1. Lalitha P, Prajna NV, Kabra A, Mahadevan K, Srinivasan M. Risk factors for treatment outcome in fungal keratitis. Ophthalmology 2006;113:526-30.
2. Wong TY, Ng TP, Fong KS, Tan DT. Risk factors and clinical outcomes between fungal and bacterial keratitis: A comparative study. CLAO J 1997;23:275-81.
3. Prajna NV, Srinivasan M, Lalitha P, Krishnan T, Rajaraman R, Ravindran M, *et al*. Differences in clinical outcomes in keratitis due to fungus and bacteria. JAMA Ophthalmol 2013;131:1088-9.
4. Prajna NV, Krishnan T, Rajaraman R, Patel S, Shah R, Srinivasan M, *et al*. Predictors of corneal perforation or need for therapeutic keratoplasty in severe fungal keratitis: A secondary analysis of the mycotic ulcer treatment trial II. JAMA Ophthalmol 2017;135:987-91.
5. Miedziak AI, Miller MR, Rapuano CJ, Laibson PR, Cohen EJ. Risk factors in microbial keratitis leading to penetrating keratoplasty. Ophthalmology 1999;106:1166-71.
6. Ray KJ, Prajna NV, Lalitha P, Rajaraman R, Krishnan T, Patel S, *et al*. The significance of repeat cultures in the treatment of severe fungal keratitis. Am J Ophthalmol 2018;189:41-6.
7. Shi W, Wang T, Xie L, Li S, Gao H, Liu J, *et al*. Risk factors, clinical features, and outcomes of recurrent fungal keratitis after corneal transplantation. Ophthalmology 2010;117:890-6.
8. Mundra J, Dhakal R, Mohamed A, Jha G, Joseph J, Chaurasia S, *et al*. Outcomes of therapeutic penetrating keratoplasty in 198 eyes with fungal keratitis. Indian J Ophthalmol 2019;67:1599-605.

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