Comments on: Keratoprosthesis optic and carrier corneal graft "noncontact" as a cause of sterile stromal necrosis in a case of Auro KPro implantation

We read with interest the recently published article by Malhotra *et al.* about the case of a 50-year-old woman with bilateral, vascularized corneal opacity and associated limbal stem cell deficiency (LSCD) for which she underwent primary implantation of Auro keratoprosthesis (KPro).[1] KPro was developed to enhance surgical alternatives to the traditional penetrating keratoplasty (PK). Despite better postoperative management and refinement of its design, corneal melting is still a potential complication of Kpro, negatively impacting the prognosis because of its potential impact on visual rehabilitation.[2,3] Hence, we felt it is important to draw attention to the causes of keratolysis following KPro implantation.

Malhotra *et al.* reported about an area of noncontact observed between the optic front plate and the carrier graft of the Kpro, and they thought it to be conducive to tissue necrosis and ulceration. We would like to elaborate on this, as there are more common causes that have to be evoked. Our study comprised a large cohort of patients with Boston KPro type I, identified the incidence, risk factors, management, and outcomes of keratolysis over a long-term follow-up.[3] In our large cohorts of melts post KPro, the senior author (MH-D) observed that sixteen (14%) of the 110 eyes (96 patients) who underwent KPro implantation developed keratolysis at an average 20 months. Retroprosthetic membrane (RPM) and infectious keratitis were identified in 31% and 25%, respectively and confirmed as significant risk factors. Other melts occurred in the setting of corneal dellen/desiccation (13%) as found in Malhotra's case report or were idiopathic (25%). Patients with keratolysis had higher complication rates and should receive rigorous monitoring. In fact, retinal and choroidal detachment were more common in eyes with keratolysis.[4,5] Corneal melt may also lead to KPro extrusion, placing the anatomical integrity and function of the globe at risk.[4]

Although the incidence rate of corneal melting has been significantly reduced, sterile keratolysis continues to be a significant complication associated with poor visual outcomes and appears more prevalent with longer follow-up. Furthermore, the improvement in the KPro design and development of a safe mucous membrane pemphigoid (MMP) inhibitor for prophylaxis and treatment are warranted to maximize KPro retention.

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Conflicts of interest

There are no conflicts of interest.

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