

Reply: Allergen-specific exposure associated with high immunoglobulin E and eye rubbing predisposes to progression of keratoconus

We are thankful to Gupta Y^[1] for suggesting and adding on valuable aspects to the case reports which discuss allergic eye diseases and keratoconus. Especially, about the other possible causes of clinical improvement and cessation of eye rubbing, such as patient's conscious avoidance of eye rubbing after clinician's advice and temporal association of seasonal improvement and antihistaminic, in addition to avoidance of allergens exposure. Gupta Y^[1] do make a valid point regarding the use of systemic immunomodulators in the management of refractory vernal keratoconjunctivitis. However, we intended to explore that strategy based on the effects (alleviation of ocular symptoms) following avoidance of allergens exposure. Systemic immunomodulation was delayed because it does come with its side effects and also due to the absence of other systemic symptoms.^[2,3] Moreover, the systemic immunomodulation is suggested in severe or blinding stages of the disease.^[2,3] As stated in the main article, the allergic ocular symptoms did subside without the use of systemic immunomodulation. In the absence of alleviation of symptoms, systemic immunomodulation is certainly a strategy to be followed to manage the disease. In the current cases, the benefit of information regarding the raised serum immunoglobulin E (IgE) in the absence of other systemic symptoms provided a valuable clue of possible exposure to allergens with subclinical systemic allergic response. It outweighed its cost by avoiding the possible use of systemic immunomodulators. Immunology referral was sought, and skin patch test was performed by the specialist. It should also be noted that the cases did not present with gastrointestinal or dermatological symptoms in the cases as suggested in the comment. Despite the concerns regarding the predictive value of skin patch test,^[4] it still remains relevant and in use as stated by position paper from European Academy of Allergy and Clinical Immunology on diagnosis of allergy in children, American allergy body paper on allergy diagnosis, and Global Allergy and Asthma European Network paper on skin prick test. It states that treatment-resistant cases of various forms of allergic conjunctivitis should be tested as the causal

allergen is not always immediately apparent.^[5] This remains particularly relevant now as we are facing an epidemic of allergic diseases. The chief advantage is that the test can be interpreted within 15–20 min, and it gives a visual indication of the sensitivity which can impact the patient's behavior. It is also useful to test less common allergens where no specific IgE antibody measurements are available.^[6] In agreement to the comment made by Gupta Y^[1] large cohort studies are needed to validate the evidence regarding the relevance of skin patch test in the diagnosis of atopic ocular diseases.

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Conflicts of interest

There are no conflicts of interest.

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