

Effect of Contact Lens Solutions in Stabilizing the Activity of Tear Lysozyme [Letter]

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Dear editor

We are writing to express our thoughts and observations regarding a recently published article “Effect of Contact Lens Solutions in Stabilizing the Activity of Tear Lysozyme” by Scheuer CA et al.¹ We would like to congratulate all the authors for their excellent paper. While the study explores the stabilization of lysozyme in daily disposable contact lens package solutions, there are several aspects that need careful consideration and scrutiny.

The study emphasizes the positive outcome for the kalifilcon A contact lens solution, indicating a statistically significant improvement in lysozyme stabilization compared to phosphate buffered saline (PBS) and other daily disposable contact lens solutions and the statistical significance does not necessarily translate to clinical relevance.^{2,3}

The study design raises concerns about its clinical applicability. The in vitro nature of the investigation, using an enzymatic assay based on lysozyme’s activity against *Micrococcus luteus*, may not fully represent the complex interactions occurring in the human eye during contact lens wear. Real-world conditions involve dynamic factors such as blinking, tear flow, and ocular surface movements that are absent in the in vitro setting.⁴

Moreover, the study primarily focuses on lysozyme, neglecting the broader spectrum of tear proteins. Tear film comprises various proteins, enzymes, lipids, and metabolites, all contributing to ocular surface homeostasis. Narrowing the investigation to lysozyme alone may oversimplify the intricate dynamics of the tear film and the potential effects of contact lens solutions on overall protein stability.⁴

Additionally, we would like to understand the author’s views on the potential limitations of the study as highlighting the constraints and uncertainties of the research.

In conclusion, while the study presents intriguing findings on lysozyme stabilization in the kalifilcon A contact lens solution, it is crucial to approach these results with caution. Further research, considering a broader spectrum of tear components in clinically relevant models is warranted to validate the practical significance of these findings.

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