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Intra-individual tear proteomics and lipidomics

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Diagnosis of disease biomarkers like cancer, diabetes, etc. have been conducted by performing mass spectrometry techniques on human tear fluid. Apart from this, tear proteomics and lipidomics have been studied extensively by researchers worldwide for identification of disease biomarkers pertaining to the ocular surface disorders. One prime example of such disease is dry eye, where by applying mass spectrometry techniques researchers have shown absence or presence of certain proteins and lipids characterizing the disease. But in this study, we have shown that apart from the inter-individual change between diseased state and control, there are differences intra-individually both at the proteomics and lipidomics level. The results obtained indicate that there are changes in left and right eye proteomics and lipidomics profile with an individual. This study in future could help in diagnosis of ocular disorders pertaining to a particular eye as opposed to the general notions adapted by ophthalmologists that if one is in a diseased state the other one is also prone to be leading to that state. The reason for this difference may be of neurobiological origin which needs more detailed future study.

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