

## Ocular surface analyser: Non-invasive tool for assessment of dry eye in paediatric vernal Keratoconjunctivitis

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### ABSTRACT

**Introduction:** Vernal Keratoconjunctivitis (VKC) is the most common and severe form of ocular allergy seen in paediatric patients. If left untreated it can lead to sight threatening complications like corneal ulcer and limbal stem cell deficiency. It is also often associated with dry eyes, which is commonly neglected in children as they cannot express their complaints. We hesitate in performing the dry eye tests like tear film break up time and Schirmer's test in children owing to their invasive nature. Ocular Surface Analyser (OSA) is a non-invasive tool which is used in adults to assess dry eye status. The purpose of this research is to present the results of evaluation of OSA as a non-invasive alternative for assessment of dry eyes in paediatric VKC.

**Methods:** Prospective pilot study. The clinical parameters recorded were bonini clinical grading, corneal fluorescein staining, Tear-film Break-Up Time (TBUT) and schirmer's II test. The OSA parameters recorded were non-invasive TBUT (NiBUT), Meibomian Gland (MG) loss, tear meniscus height and lipid layer type. The OSA and clinical parameters were correlated with the modified ocular surface disease index (OSDI) symptom scores.

**Results:** 30 children (8.4yrs, 5-15 years) with VKC showed an average TBUT of  $10 \pm 5$  sec and NIBUT of  $7 \pm 2$  sec. The mean OSDI score was  $35 \pm 14$  (maximum possible score-64). None of the clinical parameters correlated with OSDI scores. Among the OSA parameters, upper lid MG loss showed a positive correlation with OSDI scores ( $p=0.039$ ).

**Conclusion:** OSA may be used as an alternative tool for assessment of dry eyes in children. MG gland loss correlated with symptoms.

### BIOGRAPHY

Shailja Tibrewal has completed her Fellowship in Paediatric Ophthalmology, strabismus and Neuro-ophthalmology from L.V. Prasad Eye Institute, Hyderabad, India. She is currently working as a consultant in Dr Shroff Charity Eye Hospital, which is a multi-speciality eye institute in New Delhi, capital of India. She has over 20 indexed publications. She is also actively involved in various teaching and training programs at SCEH. Her areas of interest are paediatric cataract, paediatric optic neuritis, complex strabismus entities and genetics of eye disorders.



[3<sup>rd</sup> Global Ophthalmology Summit](#) | June 29, 2020

Dr Shroff Charity Eye Hospital Delhi, India

Citation: Shailja Tibrewal, Ocular surface analyser: Non-invasive tool for assessment of dry eye in paediatric vernal Keratoconjunctivitis, Ophthalmology Summit 2020, CPD Accredited 3<sup>rd</sup> Global Ophthalmology Summit, June 29, 2020, Page No.13