

INTRODUCTION

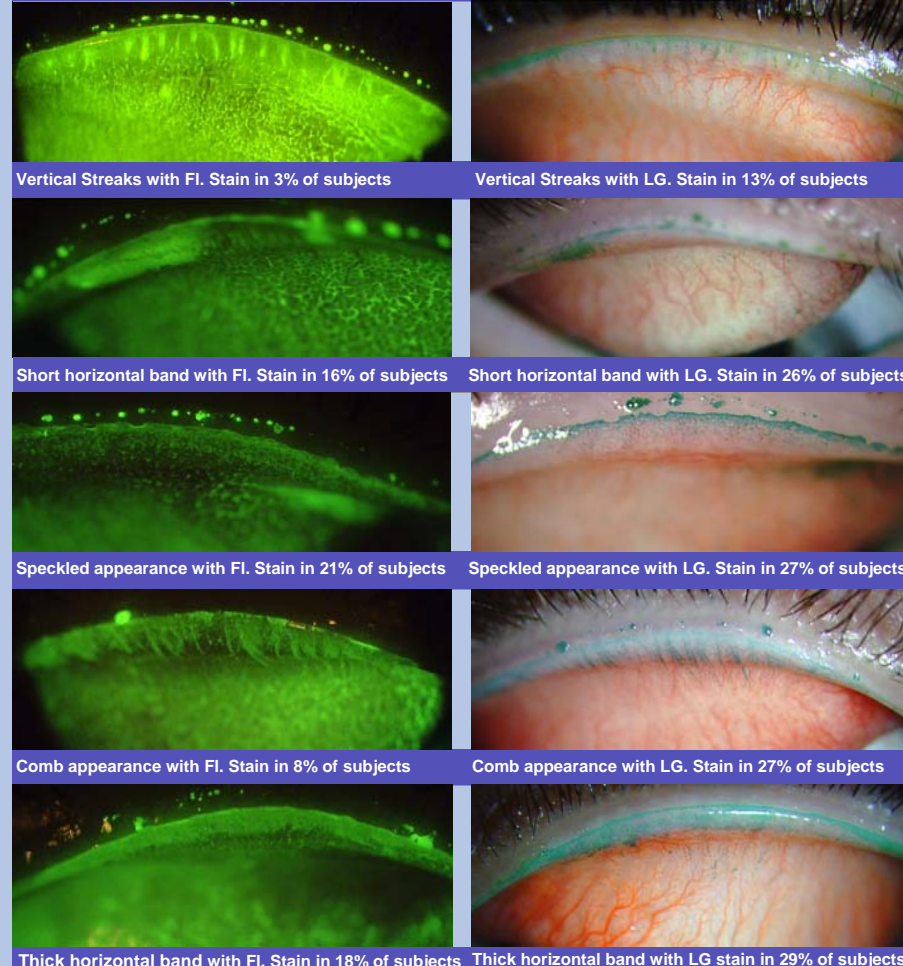
- During blinking the marginal conjunctiva of the upper eyelid is in close apposition to the ocular surface, or contact lens. This results in "brushing" of the eyelid's conjunctival surface (like the windscreen wiper of a motor car) and may result in upper lid margin staining (ULMS)¹.
- ULMS may be a useful diagnostic sign in contact lens wearers who exhibit symptoms but no obvious clinical manifestations of dry eye disease².
- The purpose of this study was to show the different clinical presentations of ULMS in adapted silicone hydrogel (SH) contact lens wearers.

METHODS

- 38 adapted SH lens wearers wearing a variety of SH materials were evaluated for ULMS using fluorescein (FI) and lissamine green (LG) stains.
- Sequentially in both eyes, a drop of sodium fluorescein was instilled into the inferior palpebral conjunctiva by wetting a FI strip with sterile saline. After 3 mins a second drop was instilled. A minute later, the upper eye lid was everted, and the "wiper" area of the upper lid examined with the slit lamp on 8X and 12X magnification, using a cobalt blue filter.
- After grading FI staining, LG was instilled and any staining of the marginal conjunctival epithelium that wipes the ocular surface was noted.
- Digital images were obtained with both stains and ULMS patterns were evaluated using digital image analysis.

RESULTS

ULMS was sorted into 6 different categories



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Categories of ULMS

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|-------------------------------|-------------------------------|
| 1. NO ULMS | 4. Speckled ULMS |
| 2. ULMS with Vertical Streaks | 5. Comb-shaped ULMS |
| 3. Short horizontal band ULMS | 6. Thick horizontal band ULMS |

The data report the prevalence of subjects with different ULMS patterns, and as some subjects had different types in each eye the % add up to more than 100.

CONCLUSIONS

- Using FI and LG stain, we have identified 5 different clinical patterns of ULMS.
- This is the first report of the range of clinical manifestations of ULMS with FI and LG stains, in subjects wearing SH materials.
- Evaluation of these patterns would aid in the management of ULMS.
- Further studies are needed to understand the relationship between the different types of SH materials and ULMS.
- Also it is important to understand the relationship between these clinical signs and reported symptoms.

REFERENCES

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