EVALUATION OF ORAL POTENTIALLY MALIGNANT DISORDERS (OPMDs) WITH AUTOFLORESCENCE, REFLECTANCE SPECTROSCOPY AND VITAL STAINING AND THEIR CORRELATION WITH HISTOPATHOLOGY – A HOSPITAL-BASED PILOT STUDY

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BACKGROUND & OBJECTIVES

- Oral carcinoma frequently is preceded by clinically identifiable OPMDs that correspond with an increased risk of cancerous change.
- Hence, it is important to screen patients for OPMDs as they aid physicians in prevention, early detection, and intervention of oral cancer.

Objectives:

- To evaluate OPMDs with autofluorescence imaging, reflectance spectroscopy (Identafi®), and vital staining technique (toluidine blue)
- Early evaluation of dysplastic changes with histopathology.

MATERIALS & METHODS

- 10 (13 lesions) patients with OPMDs visiting the Department of OMR, BPKIHS, were included.
- After oral examination, screening was done by Identafi® (white light, violet light, and green light) followed by toluidine blue staining, and then screened again by Identafi®.
- Then incisional biopsy under local anesthesia was performed from the site showing positive change and sent for histopathology. Loss of autofluorescence (LOA) and diffuse vascularity were considered positive.

RESULTS

<table>
<thead>
<tr>
<th>Sensitivity</th>
<th>Specificity</th>
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<tbody>
<tr>
<td>White light</td>
<td>100%</td>
</tr>
<tr>
<td>Violet light</td>
<td>85.7%</td>
</tr>
<tr>
<td>Green light</td>
<td>100%</td>
</tr>
<tr>
<td>Toluidine blue</td>
<td>66.66%</td>
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</tbody>
</table>

CONCLUSION

The sensitivity of white, violet, and green light are 100%, 85.7%, and 100% and specificity 100%, 50%, and 76.9%, respectively. The sensitivity and specificity of toluidine blue obtained was 66.66% and 100%. Since this is pilot study, there is a need for further samples before making any concrete inference.

KEY WORDS: Oral potentially malignant disorders, autofluorescence, reflectance spectroscopy, toluidine blue