EVALUATION OF PLOIDY STATUS USING DNA IMAGE CYTOMETRY OF EXFOLIATED MUCOSAL CELLS IN ORAL LICHEN PLANUS

Abstract:

Background: Oral lichen planus (OLP) is one of the potentially malignant disorders with a malignancy rate of 0.2-2%. Aneuploidy is considered to be one of the important markers for malignant transformation and DNA image cytometry (DIC) has been successfully employed in oral mucosal PMDs and also in tumours of the cervix, lung and biliary tract. In this study we intend to assess the ploidy status of exfoliated cells in OLP using DIC.

Materials and methods: Exfoliated cells from 48 patients with different subtypes of OLP (reticular, plaque type, erosive and atrophic) were stained using Feulgen reaction and asses for integrated optical density (IOD) using an image analysis software and the ploidy staus was assessed.

Results: Most of the patients who had reticular or plaque type of OLP (29 out of 31) exhibited diploid nuclei in the smears, whereas 11 patients who had erosive or atrophic types of OLP showed aneuploid nuclei.

Conclusion: The patients with erosive or atrophic types of OLP are at more risk and assessment of ploidy status by exfoliative cytology can be used as an adjuvant for diagnosis.

Keywords: oral lichen planus, cytology, subtypes of oral lichen planus, DNA image cytometry, Integrated optical density.