

## **Histopathological Parameters to Overcome the Diagnostic Dilemma of Oral Lichen Planus and Lichenoid Reactions: A Preliminary Study**

**A.S Amarasinghe<sup>2</sup>, P.R Jayasooriya<sup>1</sup>, I.K Rambukwella<sup>1</sup>, R.D Jayasinghe<sup>2</sup> and A. Ariyawardhana<sup>2</sup>**

<sup>1</sup>*Department of Oral Pathology, Faculty of Dental Sciences, University of Peradeniya*

<sup>2</sup>*Department of Oral Medicine, Faculty of Dental Sciences, University of Peradeniya*

Oral lichen planus (OLP) and oral lichenoid reactions (OLR) are two conditions with identical clinical and histopathological features, which occur without and with known triggering factors respectively. Although, some characteristic histopathological features of either condition do exist, such features were believed to be unreliable when making a distinction between these two oral conditions. Therefore, the aim of the present study was to characterise histopathological parameters and to ascertain their value in differentiating OLP from OLR.

The study sample comprised of 51 patients with OLP and 20 patients with OLR. Clinical diagnosis of OLR was arrived at by considering the relevant drug history or identifying the presence of dental restorations (amalgam) in contact with the lesion. Patients with a history of betel chewing or smoking were excluded from the study. Known features of epithelium and connective tissue which could be used to distinguish the two lesions were evaluated using Hemotoxylin and Eosin stained sections. In addition, mast cell distribution and thickness of basement membrane were also evaluated. Statistical analyses were performed using Chi square tests and Fishers' exact tests

The mean age of the patients with OLP and OLR were 43.83 years and 52.5 years respectively. Approximately, 90% (45/51) of the OLP patients were females. Female: male ratio for the OLR sample was 1.2: 1. Results revealed that saw tooth like rete morphology was more frequent in OLP samples compared to OLR ( $P < 0.01$ ). Presence of plasma cells in the inflammatory infiltrate ( $P < 0.01$ ), thicker inflammatory cell infiltrate ( $P < 0.01$ ) and perivascular inflammatory infiltrate ( $P < 0.01$ ) were more frequent in OLR samples than OLP. No significant differences were observed in the mast cell distribution or thickness of the basement membrane between the two groups. Other features, which are more supportive of skin LR such as focal parakeratosis or apoptotic bodies extending in to the whole thickness of the epithelium, did not show diagnostic significance for the OLP. In conclusion, the present study confirms the value of some previously known histopathological features in the differentiation of OLP from OLR. Although a previous study has indicated that increased number of sub epithelial mast cells, vascularity and basement membrane thickness as supportive of a diagnosis of OLP, similar findings could not be demonstrated in the present study.