

MAST CELL COUNT IN ORAL LICHEN PLANUS AND RELATED DISORDERS

P.R. JAYASOORIYA, P.B. TENNAKOON, E.A.P.D. AMARATUNGE

Department of Oral Pathology, Faculty of Dental sciences, University of Peradeniya

Oral Lichen planus (OLP), Lichenoid reactions (LR) and Discoid Lupus Erythematosus (DLE) are three disorders with several similar clinical and histopathological features. Recent reports indicate that the mast cells play a role in the pathogenesis of these disorders. Therefore, the aim of the study was to compare the mast cell counts of OLP, LR and DLE with normal oral mucosa to further validate the contribution of mast cells in the pathogenesis of the three disorders.

Ten specimens from each category were stained with toluidine blue for the evaluation of mast cells. Five fields under x 40 magnification were chosen from areas with the highest number of mast cells to obtain the mean mast cell count for each specimen.

Mast cell counts (mean \pm SD) thus obtained were 2.6 ± 2.3 in normal oral mucosa, 10.24 ± 6.4 in Lichen planus, 10.06 ± 8.3 in Lichenoid reactions and 7.6 ± 4.5 in Discoid Lupus Erythematosus. The results were analyzed with one-way ANOVA and Tukey's HSD test ($p < 0.05$). Mean mast cell counts were significantly higher in OLP and LR compared to normal oral mucosa. However, even though the mast cell counts in DLE did not reach a statistical significance, more mast cells were observed in DLE when compared to normal oral mucosa. In addition, mast cells were mainly distributed in the deeper areas of the lamina propria in the normal mucosa while in OLP and LR in addition to deeper areas, mast cells were also observed in the superficial sub-epithelial region of lamina propria.

In conclusion, significant increase in the mast cell number and the differences in the distribution of mast cells in OLP and LR when compared to normal oral mucosa suggest and confirm that the mast cells play a role in the pathogenesis of these two conditions.