“CD4, CD8 AND BCL2 EXPRESSION IN LICHEN PLANUS TO ESTABLISH THE RELATIONSHIP BETWEEN LYMPHOCYTIC EXOCYTOSIS AND APOPTOSIS.”

ABSTRACT

BACKGROUND:

Lichen planus is a mucocutaneous disease that is relatively common among the adult population. Lichen planus can present as skin and oral lesions and has a slight female preponderance and its rare in children. Clinical presentation of lichen planus is characterized by polygonal and violaceous papules. Histologically it is characterized by hyperkeratosis, Wedge shaped hypergranulosis, Irregular acanthosis, basal cell vacuolar damage, dense band of inflammatory infiltrate.

The main histological feature of lichen planus is the formation of colloid bodies also referred as hyaline, cytoid or Civatte bodies Dense sub epithelial band like inflammatory infiltrate. Cell mediated immune reactions appear to be important in the pathogenesis of lichen planus. The cellular response initially consists of CD4 lymphocytes. CD8 cells appear to recognize an antigen which is associated with MHC class I and they result in their death by apoptosis.

Bcl-2, a proto-oncogene that protects cells from apoptosis is seen to be increased in lichen planus. It allows a few of the cells to escape apoptosis. This process helps in prolonging the inflammatory process. In both oral and cutaneous
lichen planus CD8 cells predominate in the epithelial and sub epithelial compartments. CD4 cells play an important helper role by the secretion of Th1 cytokines.

Therefore this study is proposed to identify the type of lymphocytic infiltrate and its correlation with apoptosis and association of BCL2 with the inflammatory reactions and correlating it with its phenotypic expression.

METHODS:

Cases reported as lichen planus between from June 2014 and December 2016 in the department of pathology of this institute were considered for the study. Samples were included using the following inclusion and exclusion criteria, histopathologically diagnosed LP cases (June 2014 – December 2016) were included in the study. The exclusion criteria for the study is inadequate biopsies.

The clinical details like patient’s age, sex, clinical presentation and site of the lesion were taken from the pathology requisition forms and from the medical records department of this institute after obtaining permission from the concerned authorities and institute human ethics committee clearance. Using the above criteria 45 cases were taken for the study. The Hematoxylin and Eosin slides of these cases were analysed for the histologic features. CD4, CD8 and BCL2 IHC markers were performed and the results were analyzed

RESULTS:

The results were analysed and it was found that CD8 T lymphocytes predominate the epithelial and sub epithelial compartments. Increase in CD8 T
cells was directly proportional to the increase in apoptotic cells. Anti–apoptotic cells stained by BCL2 is directly proportional to the increase in inflammatory infiltrate in the Dermo-epidermal junction. The results were statistically analyzed using independent T test and it was statistically significant.

CONCLUSION:

In conclusion, our study on lichen planus reported in our Institute from June 2014- December 2016 revealed that the incidence of Lichen Planus in our study was 4.1%. and the mean age group of presentation was 4th decade with a slight female preponderance. The common site of the lesion presented was the lower extremities. CD8 cytotoxic T lymphocytes were prevalent with a concordant increase in the apoptotic cells. Anti–apoptotic cells highlighted by BCL2 were directly proportional to the increase in chronic inflammatory response.

KEYWORDS: Lichen Planus, CD4, CD8, BCL2, apoptosis