Correlation between mast cell concentration and microvascular density with grade and stage of Oral Squamous cell carcinoma

Sina M[1], Abdal Kh[2], Ghertasi S[3], Mohmadi M[4], Aghbali AA[5#]

[1] Assistant Professor, Oral Pathology Dept, Faculty of Dentistry,Tabriz University of Medical Sciences, Tabriz, Iran

[2] Assistant Professor Oral Pathology Dept,Faculty of Dentistry,Ilam University of Medical Sciences, Ilam, Iran

[3]Dentist

[4] Assistant Professor, Oral Pathology Dept,Faculty of Dentistry, Birjand University of Medical Sciences, Birjand, Iran

[5]Associate Professor, Oral Pathology Dept, Faculty of Dentistry,Tabriz University of Medical Sciences, Tabriz, Iran

Abstract

Background and Aim: Squamous cell carcinoma, is the most common malignancy of the oral cavity considering grade and stage are the most important determinants of prognosis. Mast cells play an important role in tumor development and progression through angiogenesis. The aim of this study was to investigate the association of mast cell concentration and microvascular density with the grade and stage of oral squamous cell carcinoma (OSCC).

Materials and Methods: This study is descriptive as the number of mast cells(MCD) and microvascular density(MVD) were examined in 87 cases with OSCC. Mast cells and microvascular density were stained by immunohistochemistry assay, All data obtained were statistically analyzed from descriptive statistics, ANOVA and Spearman's correlation coefficient respectively, using SPSS 16 software.

Result: The mean mast cells density around the tumor was 60/07±15/18 and within tumor 51/84 ±10/63 . Average microvascular density around the tumor was 46/79±9/61 and within tumor 41/45 ± 7/62. The correlation between the mast cell and microvascular density has a correlation r = 0/77. The mast cells and microvascular density was positively related to Grade and Stage and predictive of cervical lymph node metastasis ($P < 0.05$).

Conclusion: Mast cell concentration and microvascular density may be used as a factor for detecting grade of the tumor and metastasis to cervical lymphatic nodes.

Keywords: *Squamous cell carcinoma, mast cell, microvascular, prognosis, oral cancer.*

* Corresponding Author Email: *: pathologist1357@yahoo.com*