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And Scientific Research
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College of Dentistry



Immunohistochemical Expression of Laminin and Integrin in Oral Squamous Cell carcinoma in Relation to Tumor Grade and Stage

This thesis submitted to the department of oral diagnosis at College of Dentistry / University of Baghdad as a partial fulfillment for the requirement for the degree of Master in oral and maxillofacial pathology.

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Abstract

Background:

Squamous cell carcinoma is defined as “a malignant epithelial neoplasm exhibiting squamous differentiation as characterized by the formation of keratin and/or the presence of intercellular bridges , accounts for about 90% or more of all oral neoplasms . Laminin is a glycoprotein that is present in the basal membrane; it has specific actions, including an adhesion function . Integrins are a complex of noncovalently linked heterodimeric glycoproteins that function as cell adhesion molecules, interacting with extracellular matrix such as laminin, fibronectin, vitronectin, and collagen, and also having a role in intercellular adhesion .

Aim of the study:

This study is aimed to evaluate immunohistochemical expressions of laminin and Integrin in Oral Squamous Cell Carcinom in relation to tumor grade and stage.

Materials and method:

Seventeen formalin fixed -parafin embedded tissue blocks will be used in this study. The laboratory archives of the department of oral pathology at the college of dentistry / Baghdad University are to be searched for tissue blocks diagnosed as Squamous Cell Carcinom with clinical data was included in this research the hematoxylin and eosin stain was done for reassessment of histological examination. An Immunohistochemical markers: Laminin and integrin with detection kit will be used.

Result:

The age of patient extend between 18- 78 years ,most commonly affect the patient with mean age (56.29) , the highest proportion of the sample was aged > 50 years (70 . 59%) . Regarding gender,the proportion of males was higher than females (58. 82% versus 41. 18%) with a male to female ratio of 1.4:1. The tongue consider most common site affected by the oscc which account (29.41%).

In this study, regarding to grade , the most predominant grade was well differentiated OSCC and account 9 cases (52.94%) of lesions, stage distribution of the OSCC was showed stage IV in 60% of cases.

In the present study, statistical analysis does not revealed any correlation between basement memmbrne laminin expression around the nest and differentiation of OSCC . The immunohistochemical results revealed that the percentage of cases were laminins immunopositivity being more in well differentiated SCC 6 (66.7%) than moderate differentiated SCC 2(33.3%) while absence of immunopositivity is noted in all cases of poorly differentiated SCC, this gradual decrease of laminin staining with decreased cellular differentiation indicates a relationship between differentiation of the lesion and expression of laminin .

In this study there were no statistical significant correlation between the intracytoplasmic laminin expression and histological grade of OSCC . The percentage of immunopositive cases account 55.55% in well differentiated SCC , 83.3% in moderately SCC and in all cases of poorly differentiated SCC . This result revealed that the expression of the intracytoplasmic laminin is increase with progression of grade.all PDSCC cases expressed marked intense cytoplasmic

Abstract

staining of laminin within the tumor cells, while mild to moderate expression in WDSCC and MDSCC cases .

In this study , there were statistically significant differences in a comparison of intracytoplasmic integrin expression and histological grade of cancer , the immunopositivity of integrin increase from well to poorly differentiated OSCC and its account 7(77.8 %) in well DCC , and the immunopositivity seen in all moderate and poorly differentiated SCC, this reveal that the expression of integrin increase with progression of grade. There were no statistically significant correlation regarding to integrin in relation to stage and size of tumor while statistically significant correlation in comparison to lymph nodes involvement .

conclusion :

Laminin around basement membrane showed more expression in well differentiated Squamous cell carcinoma while absent in all poor differentiated cases ,and high expression of cytoplasmic laminin and integrin in all poor differentiated Squamous cell carcinoma cases suggest that laminin and integrin used to evaluate cancer aggressiveness , histologic differentiation and tumor invasion.



وزارة التعليم العالي والبحث العلمي
جامعة بغداد
كلية طب الاسنان



الظهور الكيميائي النسيجي المناعي للمعطات integrin و laminin في سرطان الفم الحرشفي وعلاقته مع التميز النسيجي ومراحل تقدم الورم

رسالة مقدمة الى مجلس كلية طب الاسنان /جامعة بغداد كجزء من متطلبات نيل شهادة الماجستير في امراض الفم والوجه والفكين

من قبل

فاطمة غازي اسود

بكالوريوس في طب وجراحة الفم والاسنان

باشراف

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