

Histological parameters and expression of EGFR and β – catenin in oral squamous cell carcinoma; a preliminary study

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The incidence of oral squamous cell carcinoma (OSCC) remains high and it is ranked as the 6th commonest cancer globally. Although the presence of neck lymph node metastases at the diagnosis can decrease the 5-year survival rates to lower than 50%, treatment of the clinically-negative neck is still controversial. Invasive front of the cancer is known to be important in predicting metastasis and prognosis thus the use of molecular markers together with traditional histological methods may improve the strategy for comprehensive management of patients with OSCC. This study is aimed to analyse the expression of Epithelial Growth Factor Receptor (EGFR) and β – Catenin molecules with histological parameters and demographic data.

A total of 39 OSCC cases treated with excision and neck dissection at Oral Maxillofacial units in Sri Lanka were assessed for pattern of invasion, tumour stage, level of differentiation, expression of EGFR and β – Catenin. Demographic data was obtained from Oral Pathology database and histological materials were collected from the archives in the same Department. Data were analysed using SPSS version 16.

A statistically significant expression of EGFR was observed with pattern of invasion ($p < 0.05$). As the sample size was small, a significant/reliable relationship could not be established with metastasis for the same. Overall β – Catenin expression was low in cancer cases and showed no significant association with pattern of invasion or metastasis. A significant positive relationship between the pattern of invasion and metastasis ($p < 0.05$); and between the host response and survival rate ($p < 0.05$) were observed.

EGFR is a reliable candidate molecule to be used in combination with histological parameters to predict prognosis of OSCC. As this is a preliminary study which however used a panel of different molecules to assess the advancing front of the cancer, a larger sample needs to be tested to draw safe conclusions before making recommendations for the clinicians.

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