IMMUNOHISTOCHEMICAL ANALYSIS OF FIBROCYTES AND MYOFIBROBLASTS IN ORAL SQUAMOUS CELL CARCINOMA SHOWING NODAL METASTATSES.

by

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ABSTRACT

Background & Objective:

The study was designed to assess the presence and distribution pattern of two of the stromal cells, fibrocytes and myofibroblasts in oral squamous cell carcinoma (OSCC). Possibility of using these stromal cells as a marker for invasion and lymphnode metastasis for OSCC lesions was evaluated.

Methods:

Total forty cases of OSCC consisting 20 cases of each lymph node positive and negative samples and 10 normal buccal mucosal tissues were subjected to double immunostaining using CD34 and α-SMA antibodies. Evaluation of stained sections was done semi-quantitatively.

Results:

CD34 positive fibrocytes were seen in 70% of normal samples and none of OSCC study samples. Fibrocytes values were statistically significant between normal and OSCC study samples ($p=0.0007$). α-SMA positive myofibroblasts were seen in 80% of OSCC samples and none of normal samples. Myofibroblasts values were statistically significant between normal and OSCC study groups ($p=0.0001$). No statistical significance was observed in myofibroblasts between pN0 and pN+ study groups, however, the distribution pattern of myofibroblasts was appreciably different.

Interpretation and conclusions:

This study suggested that fibrocytes could be used as one of the marker for invasion. Abrupt loss of fibrocytes at the transition zone towards carcinoma and statistical significance in fibrocytes values between normal and OSCC study groups

supported this inference. Heterogeneity in distribution pattern of myofibroblasts in tumour stroma indicates that this variability may predict the tumour behavior towards nodal metastasis rather than their mere presence of absence. The abrupt loss of fibrocytes at transition towards carcinoma and gain of myofibroblasts may hint at their fibrocytic origin in the tumour stroma.

Key words: **Fibrocytes; myofibroblasts; CD34; α-SMA; tumour stroma; invasion; nodal metastasis.**