

The role of mast cells and angiogenesis in well differentiated oral squamous cell carcinoma

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Objective: Mast cells are well known to be involved in allergic, inflammatory and immune reactions. In addition, they are also involved in pain, tissue damage as well as repair. However, in the recent past, mast cells have proven to be related to cancer and mediate their effect through release of many cytokines and chemokines, pro-angiogenic factors and via heparin release. Therefore, mast cell function in developing tumours is being extensively investigated worldwide. The role of mast cells has already been studied in many pathological conditions and malignancies. Some studies suggest the pro-angiogenic and thus pro-tumourigenic role of mast cells in OSCC, whereas some studies do not support this theory. This study has evaluated the role of mast cells and angiogenesis in oral squamous cell carcinoma and the findings of this study can prove to be helpful in determining the prognosis and treatment modalities of OSCC in the future.

Materials and Methods: It was a prospective study in which 37 biopsies of well differentiated oral squamous cell carcinoma were obtained. Microvessels were stained with monoclonal anti-human CD-34 class II antibody and mast cells were counted using Toluidine blue stain.

Results: When compared with normal oral mucosal tissue, it was seen that microvessel density and mast cell density indeed increases significantly in well differentiated oral squamous cell carcinoma, however, they are not correlated to each other.

Conclusion: This study reports that angiogenesis does increase in oral squamous cell carcinoma and mast cells also invade the peri-tumour tissue but they are not directly correlated.

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