Controversy of Prophylactic central neck dissection in Differential thyroid carcinoma

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Thyroid carcinoma is the commonest primary endocrine-related malignancy. Despite this, the cancer-specific mortality remains low with an overall 10-year survival above 90%. With a diagnosis of papillary carcinoma, 40% to 60% of patients will develop nodal metastasis. Recurrent disease after curative treatment of DTC remains a major cause of patient morbidity and represents a management challenge for clinicians. There is considerable debate regarding elective nodal dissection in patients with well-differentiated thyroid carcinoma. Actually, it is one of the most controversial surgical subjects in head and neck malignancy in the recent times.

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Immunohistochemistry as a novel diagnostic aid in oral pre-cancer and cancer

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Cancers of the head and neck region form a major cause of mortality worldwide, especially in the South East Asian region. Advances in understanding of the molecular mechanisms underlying oral cancer and Oral Potentially Malignant Disorders (OPMDs) have resulted in an increasing number of biomarkers that can be used to predict the behaviour of this disease. Immunohistochemistry (IHC) forms a novel advanced diagnostic procedure which is relatively easier, less technique sensitive and cost effective. It provides the molecular insights occurring within a cell during various stages of carcinogenesis. It can be used as an objective method for assessment of biological behavior of oral cancers and potentially malignant disorders. It can be used in conjunction with other advanced diagnostic techniques such as Polymerase Chain Reaction (PCR) and Fluorescent In situ Hybridization (FISH) with increased diagnostic value. IHC can provide accurate information regarding lineage and the origin of the tumor cells, their invasive potential and biological behavior. These biomarkers can also be used to evaluate various biological functions such as cell cycle progression and proliferation, tumor suppression, apoptosis, hypoxia, angiogenesis, cell adhesion and matrix degradation. Several proteins have been analysed through assessment of the immunohistochemical expression levels of Epithelial Growth Factor Receptor (EGFR), p53, and Matrix Metalloproteinases (MMPs) and have been demonstrated to have good potential for survival prediction in OSCC. Novel markers such as mTOR, Hypoxia Inducing Factor (HIF) and EMMPRIN have been studied to elucidate the pathogenetic mechanisms of the disease. VEGF-C and Cathepsin D have been correlated with lymph node metastasis and survival rate of oral cancers. A carefully selected set of biomarkers obtained through further standardized research may help to predict the prognosis of OSCC patients in future. The results from biomarker analysis may serve as a useful tool for developing a targeted molecular therapy and increased patient survival rate in the future.

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