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MDent research report entitled: Expression of the E-cadherin/β-catenin complex in oral squamous cell carcinoma and its correlation with histomorphology and metastasis.

ABSTRACT

Expression of the E-cadherin/β-catenin complex in oral squamous cell carcinoma and its correlation with histomorphology and metastasis.

The immunohistochemical expression of E-cadherin and β-catenin was examined in 30 primary oral squamous cell carcinomas in patients with (n=19) and without (n=11) nodal metastasis, as confirmed on histopathological examination of the resected regional lymph nodes. The corresponding primary and nodal metastases tissue samples were available for 17 patients. The 30 primary carcinomas were histologically graded according to the invasive tumour front grading system and by conventional Broders' criteria. None of the 30 primary carcinomas showed homogenous, membranous E-cadherin and β-catenin expression when compared to the normal oral squamous epithelium. Staining was heterogeneous in 73% (22/30) and in 77% (23/30) of the primary carcinomas stained for E-cadherin and β-catenin respectively. There was a highly significant reduction ($P<0,001$) of both E-cadherin and β-catenin expression with progression from the well-differentiated areas to the less differentiated tumour cells at the invasive tumour front. At the invasive tumour front, however, irrespective of the nodal status and invasive tumour front grading score, 28/30 (93%) tumours showed loss of E-cadherin expression. Loss of β-catenin expression was recorded in 22/30 (73%) cases.

These findings indicate that E-cadherin and β-catenin play a key role in the loss of differentiation of tumour cells in oral squamous cell carcinoma and while they may be permissive for metastasis, in isolation, E-cadherin and β-catenin are probably not predictive of metastatic potential in oral squamous cell carcinoma.

KEY WORDS: E-cadherin; β-catenin; oral; histomorphology; metastasis