

Meeting abstract

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Expression of MMPs and TIMPs in different tumor progression stages of oral cavity squamous cells carcinoma (experience of 30 cases in Instituto Nacional de Cancerología, México 1999–2004)

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Background

Squamous cells carcinoma constitutes 90% of malign tumors of the oral cavity. Typically, it has a high potential of invasion, recurrence and lymphatic metastasis. Metalloproteinases (MMPs) AND tissue inhibitors of metalloproteinases (TIMPs) are considered the main molecules involved in invasion and metastasis. The purpose of this study was to establish through immunohistochemistry the expression of MMP1, 2, 3, 7, 9, 11 and 13, and TIMP-1 and 2, in different selected areas representing tumor progression stages in oral cavity squamous cells carcinoma (OCSCC).

Materials and methods

Out of 412 patients from the Institute National de Cancerología with a histological diagnosis of OCSCC and treatment with primary tumor surgery and neck dissection from 1999 to 2004, 30 cases were selected with material for immunodyeing of representative areas of tumor progression (in situ carcinoma, primary tumor, tumor front, invasive carcinoma distant to the primary tumor and metastatic node) and control tissue (normal mucous membrane to the tumor). Immunohistochemical reactions were appraised in five representative fields in each area (40× objective). Cases considered positive were those with more than 20% neoplastic cells and/or peritumoral stromal cells with mild, moderate or intense expression. Statistical analysis included Fisher's exact test to contrast the different appraised areas.

Results

Expression of seven out of nine MMP and TIMP enzymes was observed both in neoplastic cells and peritumoral stromal cells.

Conclusion

Expression of MMP-2, 3, 7, 9, 11 and TIMP-2 was observed in different stages of tumor progression, both in neoplastic cells as in peritumoral stromal cells in OCEC. This allows us to consider them invasion facilitators, and their joint action may confer to them a more aggressive behavior in neoplastic growth.