

MATRIX METALLOPROTEINASE-9 (MMP-9) CORRELATES WITH THE DEGREE OF PAPILLARY THYROID CARCINOMA (PTC)

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In cancer research, behavior and prognosis matrix metalloproteinases (MMPs), a family of zinc-dependent endopeptidases with the capacity to degrade extracellular matrix proteins and basement membranes, is proved to play an important role in multiple stages of cancer progression and metastasis. [1]. Among the MMPs, a subset called gelatinase, consisting of MMP-2 (gelatinase A) and MMP-9 (gelatinase B), has gained the most attention of studies on the acquisition of invasive and metastatic tumor properties, as they could degrade collagen IV, which is the major component of the basement membrane.

In thyroid diseases, much evidence demonstrated that MMP-9 is overexpressed in thyroid carcinoma (TC), especially in PTC, when compared to the benign tumor and normal tissues, and the active MMP-9 contributes to the development and metastasis of TC [2, 3].

Considering above mentioned, we have studied 22 cases of PTC, among them 12 — was cases with soft tissue metastasis in the neck and 10 — multifocal with capsular invasion.

According histological (H&E) and immunohistochemical data, it was shown MMP-9 strong diffuse activity (expression) into tumor parenchyma with neck soft tissue metastasis versus of multinodular lesion showing only capsular invasion.

Statistic also suggest that MMP-9 is more applicable for accuracy diagnosis of metastatic activity of tumor cells and aggressive biological behavior.