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Evaluation of matrix metalloproteinases, their inhibitors and their participation in cervical carcinogenesis

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Abstract

The Cervical cancer is the third among cancers in women worldwide. Studies have confirmed that infection followed by persistent human papillomavirus (HPV) plays a major role in the onset and progression of cervical lesions. Among the viral mechanisms of induction of cancer are the oncoproteins E6 and E7, with the ability to modify the host cell cycle and contribute to the process of uncontrolled cell progression. However, only HPV infection is not able to induce invasive lesions are required cofactors, including matrix metalloproteinases (MMP) family of endopeptidases capable of digesting the extracellular matrix and basal membrane factors induce development consequently participates the processes of neoplastic invasion, metastasis, angiogenesis, and tumor recurrence. In neoplastic lesions MMPs are produced by tumor cells and stromal cells involved in the vicinity of neoplastic lesions. Although much studied, little is known about the mechanisms of MMPs in cervical lesions and HPV. Most studies were performed using cultured cells infected with HPV-16 or 18 are missing in the presence of research and coinfection synthesis and activation of MMPs, including subtypes. So what is the role of matrix metalloproteinases and inhibitors (TIMP and RECK) in the progression of cervical lesions (squamous intraepithelial lesions until the invasion), matching them to the type of HPV and expression of oncoproteins E6, E7? These proteins would be predictive and diagnostic markers in tumor progression and invasion?

Biography

Jacinto was 23 years old when he completed his degree. He has an MSc in biophysics, a specialist in cytopathology at the Federal University of Pernambuco and a Ph.D. in pathology from the University of São Paulo. He is currently an Assistant Professor, and coordinator of the cytopathology sector and of postgraduate cytopathology. He is also Head of the Laboratory of Molecular and Cytological Research at the Federal University of Pernambuco and leader of the Research Group on Chronic-Degenerative Diseases-CNPq/UFPE. He also develops cancer research (biomarkers, adhesion molecules and mechanisms metastatic) and has published several articles in scientific journals, including mechanisms of carcinogenic human Papillomavirus, and tissue morphofunctional disorders in the use of natural extracts.