E6 of HPV-16-variants induces invasive capacity of C-33A: Ezrin as regulator of this process

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The cervical cancer is the second cause of death from malignancy in women of reproductive age. The Human Papillomavirus high risk (HR-HPV) is the necessary biological factor for development of malignant lesions in the cervix, in collaboration with other factors. It has been reported that HPV-16 is the most frequent in the cases of cervical cancer, and that oncogenic risk may vary according to the genetic variants of virus. In women in southern Mexico, it has been observed that the most frequent variants in cases of cervical cancer are AAa, AAC, E-G350, E-C188/G350 and E-C176/G350. Some studies show that HPV 16 oncoproteins, E6 particularly, promote invasiveness of cervical tumor cells by overexpression of several matrix metalloproteinases, which are proteases responsible for degradation of extracellular matrix, which initiates and promotes the cell invasion process. In our laboratory, C33A cells expressing the E6 oncoprotein of HPV16 variants more frequent in Guerrero state were generated. Using RNA microarrays, we observed that expression of E6 in these cells affects the expression of several genes that, among other processes, are involved in adhesion, cell motility and signalling having a different effect for each variant of HPV16. We are evaluating the invasive capacity of cells expressing E6 for each HPV-16 variant and the mechanisms involved; participation of Ezrin, an invasivity regulator in other cancers, and the expression and activity of MMPs, as well as the Vimentin and E-cadherin expression, proteins involved in epithelial mesenchymal transition, which promotes the cell motility of tumor cells. Preliminary, we have observed that E6 HVP-16-AA induces major invasive capacity in comparison with the other variants and cells control, and this effect is Ezrin dependent. This research helps understanding of the mechanisms of invasion of cervical tumor cells induced by HPV E6 and the regulators of this process.

Biography
Mendoza-Catalán M A has completed his PhD in Biomedical Sciences from University of Guerrero State, Mexico. He is a young researcher member of National System of Researchers, Mexico. He is Researcher Professor in the University of Guerrero, expert in cell biology, assigned to the Laboratory of Molecular Biomedicine at the school of Chemical and Biological Sciences. He has published 1 paper in reputed journal and 2 more are under process about expression of proteins and mechanisms of cell motility and invasion of cervical and breast cancer cells.

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