عنوان مقاله:

The role of microRNA-30a and downstream snail1 on the growth and metastasis of melanoma tumor

محل انتشار:

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خلاصه مقاله:

Objective(s): Growing evidences have indicated microRNAs as modulators of tumor development and aggression. On the other hand, a phenomenon known as epithelial-mesenchymal transition (EMT) that indicates a transient phase from epithelial-like features to mesenchymal phenotype is a key player in tumor progression. In this study, we aimed to assess the potential impacts of miR-30a-5p as an inhibitor of melanoma progression and metastasis.Materials and Methods: MiR-30a-5p was transfected into B16-F10 melanoma cells. Then, the B16-F10 cells were injected subcutaneously or intravenously (IV) in to C57BL/6 mice. Then, the mice were euthanized and tumor size, tumor weight, snail1 protein expression and nodules in the lungs were evaluated.Results: The migration of cancerous cells was significantly suppressed in vitro following the ectopic presentation of miR-30a-5p into B16-F10 melanoma cells. Furthermore, the metastatic behavior of the neoplastic cells was further suppressed in a xenograft mouse model of melanoma as observed with limited lung infiltration. We also found that transfected miR-30a-5p into melanoma cells could decrease snail1 and N-cadherin expression. Conclusion: MiR-30a-5p may represent an effective therapeutic target for the management of melanoma and other snail-overexpressing neoplasms.

کلمات کلیدی:

Epithelial-mesenchymal transition, Melanoma, Metastasis, miR-30a, Neoplasm, Snail1