عنوان مقاله:

The role of miR-146a-5p and CXCR4 in tumorigenesis of colorectal cancer cells

محل انتشار:

چهارمین کنگره بین المللی سرطان های دستگاه گوارش (سال: 1397)

تعداد صفحات اصل مقاله: 1

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خلاصه مقاله:

Introduction: CXCR4 expression is an important contributor to development of primary colorectal tumor, cancer cell survival and liver metastasis. CXCR4 is a known target of miR-146a-5p. In this experiment, we aimed to investigate the impact of the exogenous induction of mature miR-146a-5p on CXCR4 expression, proliferation, apoptosis and some EMT markers in two invasive human colorectal cancer cell lines. Methods: Caco-2 and SW480 human colon cancer cells were cultured and transfected with a synthetic mature miR-146a-5p mimic. At the end of the transfection period, the cells were collected and assessed for proliferation and apoptosis by flow cytometry using PI and Annexin V-PE/7AAD staining. Also, expression of some EMT markers at gene level was evaluated by quantitative real-time PCR. Results: After transfection of miR-146a-5p into Caco-2 and SW480 cells, the expression of VIM (vimentin), CXCR4, and FOS were downregulated in the both cell lines compared to the control group. Flow cytometric assessment of cell cycle and apoptosis showed that transfection of the both cell lines with miR-146-5p mimic increased the proliferating cells and decreased the apoptotic rate. Conclusion: It seems that exogenous induction of miR-146a-5p, despite suppression of some EMT markers, shows a pro-survival effect in colon cancer cells. However, in order to reach a clear answer regarding the role of miR-146a either as a tumor suppressor or oncogene, a functional study would be required to confirm how overexpression of miR-146a-5p affects invasion rate and tumorigenesis of colon cancer cells using in vitro and in vivo experiments.

کلمات کلیدی:

miR-146a, CXCR4, proliferation, apoptosis, colon cancer