



Study of Cofilin1 gene expression in colorectal cancer

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Abstract

Introduction & Aim: Colorectal cancer (CRC) is the third most common cancer, and the fourth most common cause of cancer death worldwide. Approximately, 1.4 million people are diagnosed with CRC and 700,000 die of CRC annually. The ability of cancer cells to migrate and relocate lead to the creation of secondary tumors elsewhere in the body. Cofilin 1 is one of the important proteins responsible for cell migration process and plays a key role in the dynamics of actin filaments. Microtubule actins are responsible for forming cells. They are also essential in cytokinesis and cell migration by creating redundancies and false legs. Cofilin 1 is considered as an actin-binding protein which controls locating, polymerization and depolymerization of actin monomers. The purpose of this study, as a case-control study, was to examine changes in Cofilin 1 gene expression in patients with colorectal cancer.

Materials and Methods: RNA samples from tumor tissue and normal tissue surrounding the tumor was extracted in 30 patients with colorectal cancer. Then Cofilin 1 gene expression was studied using real-time polymerase chain reaction technique (qRT-PCR). Using statistical methods, the relationship between the levels of mRNA expression in normal and pathological state was evaluated.

Results: In this study, it was observed that Cofilin 1 genes increases the expression in cancerous tissue compared to normal tissue around the tumor. The Meaningful relationship between this gene and colorectal cancer was noticed ($P.V=0/0140$).

Conclusion: It can be concluded Cofilin 1 may serve as a candidate for clinically useful biomarkers or therapeutic targets for CRC.

Key words: Colorectal cancer, Cofilin 1