

عنوان مقاله:

Kras- Braf gene mutation assay in prostate adenocarcinoma patients

محل انتشار:

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خلاصه مقاله:

An important type of cancer is prostate cancer which develops in the prostate and grows slowly comparing to other cancers. Cellular changes occur nearly 10, 20 or 30 years before the tumor becomes large and symptoms are revealed. Eventually, the cancer cells may spread to the whole body which is called metastasis. When symptoms appear, cancer has significantly developed. Normal KRAS is an oncogene. Mutations of Kras genes inhibit GTP hydrolysis and permanently active RAS molecule. It should be concerned that most of the kras genes are mutated in many cancers and it is confirmed that target therapy with EGFR tyrosine kinase inhibitors is one of the most important factors in the treatment of cancers. Two of the most important EGFR-specific TKIs are Gefitinib and Erlotinib. Clinical researches confirmed that mono-therapy with Gefitinib provides good results and is used against a wide range of tumors such as colon, head or neck, breast, prostate and lung cancer. EGFR-TKIs have usually failed as a second-line therapy in patients after chemotherapy. The overall objectives of this project were evaluation of Anti-EGFR therapy and prediction of prostate cancer and other tumors, improving the response to treatments by patients with prostate cancer upon employment of chemotherapeutic drugs such as Anti-EGFR and helping patients with prostate carcinoma through screening of mutations KRAS and BRAF genes. Patients were studied using a reverse hybridization, strip-based Assay (KRAS and BRAF Strip Assay) that allows the detection of the 10 most frequent KRAS mutation and one BRAF (BRAF V600E) located on exons 1 and 15. The procedure included three steps of DNA isolation, PCR amplification using biotinylated primers and hybridization of amplification products by a test strip containing specific oligonucleotide probes. Then bound biotinylated sequences were detected using streptavidin-alkaline phosphatases and color substrates. According to the results of this study, it appears that clinical trials and their use in the treatment of patients with prostate cancer can be expanded in order to find out target therapies, without having to resort to chemotherapy.

کلمات کلیدی:

Prostate carcinoma, KRAS proto-oncogene, BRAF V600E

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