



## Evaluation of KRAS Gene Mutations in Metastatic Colorectal Cancer Patients in Kermanshah Province

Nasrin Amirifard, Mehrdad Payandeh, Edris Sadeghi, Masoud Sadeghi

Cancer Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran

\*Corresponding author: [Sadeghi\\_mkn@yahoo.com](mailto:Sadeghi_mkn@yahoo.com)

### Abstract

**Introduction & Aim:** Worldwide, colorectal cancer (CRC) is reported to be the fourth most common cancer in men and the third most common in women. KRAS is a proto-oncogene located on the short arm of chromosome 12. The aim of this study was to evaluate the KRAS oncogene and its relationship it with clinicopathologic features in 33 Kurdish patients.

**Methods:** Metastatic CRC between 2012 and 2016 that came to Imam Reza hospital, Kermanshah province, Iran, were analysed for KRAS mutations using allele specific PCR primers and pyrosequencing. Correlations between variables was analyzed in PASW SPSS and overall survival curves were plotted in Graph Pad prism 5.

**Results:** The mean age for them at diagnosis was  $51.5 \pm 12.6$  years (range, 22-76 years) . Among the 33 patients that were sequenced, 12 samples in the KRAS gene had a nucleotide change,

11 in codon 12 and 1 in codon 13. There was no significant relationship between the mutation and clinical and pathological aspects of the disease.

**Conclusions:** Knowledge of the KRAS status can help in decision-making to treat metastatic colorectal cancer patients more efficiently and increase survival. However, many Kurdish people due to economic problems are not able to do this valuable genetic test. In addition, we need more careful research of KRAS oncogene at the molecular level in young populations with more patients.

**Keywords:** Colorectal cancer - KRAS - mutation - PCR - wild type