MOLECULAR SPECTRUM OF KRAS, NRAS AND BRAF MUTATIONS IN DENIZLI COLORECTAL CANCER PATIENTS

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Purpose: Mutations in genes such as KRAS, NRAS and BRAF have become an important part of colorectal carcinoma evaluation. The aim of this study was to screen for mutations in these genes in Turkey patients with colorectal cancer (CRC) and to explore their correlations with certain clinicopathological parameters.

Material and Method: We tested mutations in the KRAS (exons 12, 13 and 61), NRAS (exons 12, 13 and 61), and BRAF (codon 464 and 600) genes using polymerase chain reaction with biotinylated primers following pyrosequencing in a small portion of 136 Turkish CRC patients who has applied to Pamukkale University Hospital.

Results: The prevalence rates of KRAS, NRAS and BRAF mutations were 45%, 15% and 8%, respectively. Mutant KRAS was associated with the mucinous subtype and greater differentiation, while mutant BRAF was associated with right-sided tumors and poorer differentiation.

Conclusion: Our results revealed that correlation in the genetic profiles of KRAS, NRAS and BRAF at mutation hotspots in Turkish CRC patients and some of those mutations patterns were consisted with those patients from the far East countries.