PRINT: ISSN 0972-3757 ONLINE: ISSN 2456-6330
International Journal of
HUMAN GENETICS

Int J Hum Genet, 18(3): 210-218 (2018)
DOI: 10.31901/24566330.2018/18.3.705

Analysis of Genetic Alterations in Colorectal Cancer (CRC) Patients in South Indian Population

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KEYWORDS Chromosomal Instability. Colorectal Cancer. Epigenetic Alterations. Genomic Instability

ABSTRACT Colorectal cancer is the third most common type of cancer and third topmost cause of cancer death in the world. Majority of the colorectal cancer is sporadic (65-80%) with a family history of the disease (15-30%). Only five percent is due to hereditary mutations in major genes. Tumorigenesis of colorectal cancer is due to chromosome instability, microsatellite instability and CpG island methylator phenotype involve various tumor suppressor genes and proto-oncogenes in the deoxyribonucleic acid. Chromosome instability proceeds by two ways, aneuploidy through which loss/gain of whole chromosomes and gain or loss of regions of the chromosome. The loss of function of a gene occurs in the first stage of cancerogenesis, in addition a change of methylation pattern of many key genes can develop colorectal cancer. The paper depicts the incidence rate, mortality rate, risk factors and prevention of colorectal cancer.