Haplotype analysis of TP53 polymorphisms in oral cancer patients

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P53 is a tumor suppressor protein. The protein has been reported to be defective, leading to complete or partial loss its functionality in about half of the human cancers, including those of oral cavity. P53 is encoded by TP53 gene located on the short arm of chromosome 17 (17p13.1). Hence, we investigated association of the three major polymorphisms of TP53 gene with tongue and buccal mucosa cancers in males and females. Further we have also performed haplotype analysis of the data to understand whether the occurrence of these polymorphisms is independent or not, and co-occurrence of these polymorphisms of the genes alters the risk of the oral cancers. Therefore we have investigated the prevalence of the variants and their association with tongue and buccal mucosa cancers. The polymorphisms investigated are; intron-3 16bp duplication (rs17878362), intron 6 G>A (rs1625895) and Exon-4 G215C (R72P , rs1042522), in a case-control study. Results obtained revealed significant variations in the distribution of the polymorphisms between tongue and cancer patients. Further, we also observed gender based variations in the polymorphisms.

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