

## **Genetic Polymorphisms of Cyclooxygenase2 (COX2) Gene in Eastern Indian Chronic Periodontitis Patients**

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**ABSTRACT** This present study is aimed to find out the association of Cyclooxygenase2 or COX2 gene polymorphisms such as COX2-765C/G (rs20417), COX2-1195A/G (rs689466) and COX2+8473C/T (rs5275) gene polymorphism with chronic periodontitis in eastern Indian population. A case control study had been performed with a total of 357 participants where 157 identified as patients with chronic periodontitis and the rest 200 were taken as control population. All statistical analysis was performed in SNPAssoc, Haploview, MDR 3.0.2 version software packages. The studied COX2 gene polymorphisms are genotypically significantly associated with studied CP population ( $\leq 0.01$ ). The mutant alleles of three polymorphisms COX2-765C/G, COX2-1195A/G and COX2+8473C/T are significantly associated to the increased susceptibility of CP (OR= 2.01, 95%CI= 1.475-2.754,  $p < 0.0001$ ; OR= 1.7, 95%CI= 1.249-2.331,  $p = 0.0008$ ; OR= 2.2, 95%CI= 1.61-3.014,  $p < 0.0001$  respectively). There are four haplotypes CCA, TGG, TCG and CCG found to be related to the increasing risk of CP. All three COX2 gene polymorphisms are found to be significantly associated with chronic periodontitis increased susceptibility in studied population.