Deepak Kumar Roy, J Stem Cell Res Ther 2016, 6:4(Suppl)
http://dx.doi.org/10.4172/2157-7633.C1.017



# The role of genetics in the etiology of dental caries: A PCR based study

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Dental caries is multi factorial in origin. Various etiologic factors are responsible for the causation of disease process. There is an emerging evidence for a genetic component in caries susceptibility. Studies in human have suggested that variation in enamel formation genes may contribute to caries development. Functional polymorphisms in the Matrixmetalloproteinase (MMP) genes have been attributed to enamel development and caries pathogenesis. The objective of this study was to investigate the relationship of MMP-13 (rs2252070) to dental caries. The sample consisted of 60 subjects. Oral hygiene status was accessed by simplified Oral hygiene Index (OHI-S). Dental caries was assessed according to the criteria recommended by the World Health Organization guidelines using the DMFT index. The subjects were divided into 4 groups (15 in each group). Group A: subjects having poor oral hygiene and absence of dental caries. Group B: Poor oral hygiene and presence of dental caries. Group C: good oral hygiene and absence of dental caries. Group D: good oral hygiene and presence of dental caries. Blood samples (1.5 ml) were obtained from the patients followed by isolation of Genomic DNA, Polymerase chain reaction test and digestion with enzyme Bsr-I. Result indicated that due to the single nucleotide polymorphism of MMP-13(rs2252070) the patients were suffering from dental caries despite having good oral hygiene. The role of MMP-13 was not evident for age and gender with dental caries.

## Biography

Deepak Kumar Roy is a postgraduate resident in department of conservative dentistry and Endodontics at BPKIHS, Dharan, Nepal. He has completed his graduation in dentistry from BPKIHS, Dharan Nepal. He has deep interest in research works and has multiple national and international publications. He has worked in genetics, cleft lip and palate, dental caries, psychological aspects and involved in innovative works. Recently, he has successfully completed research on influence of genetics on dental caries.

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