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Functional genetic variant of long pentraxin 3 gene is associated with clinical aspects of oral cancer

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Long pentraxin 3 (PTX3) is produced by various cell types and correlates with tumor progression in various human tumor types. However, the clinical significance of PTX3 polymorphism in oral cancer and its correlation with risk of cancer are still unclear. In this study, we assessed the influence of PTX3 gene polymorphisms and environmental factors on susceptibility to oral tumorigenesis. We recruited 865 patients with oral cancer and 1,189 controls. Four single nucleotide polymorphisms of the PTX3 gene (rs1840680, rs2305619, rs3816527, and rs2120243) were tested using a real-time polymerase chain reaction in control participants and patients with oral cancer. We found that rs3816527 in smokers was correlated with the development of late-stage cancer (odds ratio [OR], 2.328; 95% confidence interval [CI], 1.078 to 5.027), increased lymph node metastasis (OR, 2.152; 95% CI, 1.047 to 4.422), and increased metastasis (OR, 5.037; 95% CI, 1.009 to 25.132). Moreover, additional bioinformatics analysis proposed that the rs3816527 C allele variant to the A allele exhibited the strongest enhancement activity. In conclusion, our results suggested that PTX3 rs3816527 may play a role in susceptibility to oral cancer development.

Biography

Yang is a professor of Institute of Medicine, Chung Shan Medical University, Taiwan. He has received the PhD degree in molecular biology. In particular, his researches have been focused on pharmacology, head and neck cancer metastasis, cancer biology, genetic polymorphism and environment risk factors in cancer.

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