headandneck 5000

Exploring mechanisms linking lifestyle and dietary factors to oral and oropharyngeal cancer progression: A Mendelian Randomization and possible recall by genotype study.

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Scientific Outline

Summary

To-date, few studies have been carried out to investigate the association between lifestyle and dietary factors with oral and oropharyngeal cancer progression outcomes such as survival and disease-free survival. Furthermore, the mechanisms linking lifestyle and dietary factors to oral and oropharyngeal cancer progression outcomes have not been elucidated. The availability of survival, disease-free survival and genotype data from the Head and Neck 5000 cohort enable the causal nature of the association between lifestyle and dietary factors and survival and disease-free survival for patients with oral and oropharyngeal cancer to be examined. Furthermore, the extensive collection of diagnostic or pre-treatment biological samples may be used for Recall by Genotype studies for deep phenotyping. To investigate the causal nature of the association between lifestyle and dietary factors and survival and disease-free survival for patients with oral and oropharyngeal cancer, we will first aim to examine the association between genetic variants associated with lifestyle or dietary factors and survival or disease-free survival using Mendelian Randomization (MR) approaches. Secondly, we will carry out bioinformatics analyses of MR results to identify potential intermediate pathways linking lifestyle and dietary factors to survival and disease-free survival. Thirdly, we will review these results and consider replicating the first stage of the GWAS analyses using DNA samples from individuals with oral or oropharyngeal cancer. Lastly, Recall by Genotype studies may be carried out to elucidate the mechanisms linking lifestyle or dietary factors to survival and disease-free survival. The findings from this study will enable the identification of the lifestyle or dietary factors and biological mechanisms driving oral and oropharyngeal cancer progression that may aid outcome prediction and may be amenable to intervention.