

headandneck 5000

Epstein-Barr Virus (EBV) Antibody Response Patterns in Western and Asian EBV-associated Nasopharyngeal Carcinoma (NPC)

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Scientific Outline

Summary

Epstein-Barr virus (EBV), a pathogen that infects ~90% of the world's population, is etiologically linked to nasopharyngeal carcinoma (NPC); nevertheless, only a small fraction of infected individuals develop NPC, with the greatest incidence reported in Southeast Asia and southern China. NPC has largely non-specific symptoms and is therefore often diagnosed at late stages – corresponding to poor prognosis. Our group has previously conducted studies to determine whether differential antibody response to the virus may aid in facilitating early detection of the cancer. Our previous work has focused on samples obtained from Taiwanese participants, in which we identified a 13-marker EBV-antibody signature that was able to predict 5-year NPC risk with ~90% accuracy. The Head and Neck 5000 clinical cohort study from the United Kingdom has already measured the same set of markers in 98 NPC cases and 142 age- and sex-matched laryngeal squamous cell carcinoma controls. We therefore request the use of these data to investigate potential differences in EBV serology between populations as well as further validate our results and determine whether the antibody signature found in the Taiwanese population is generalizable to the U.K. population.

Keywords: Epstein-Barr virus, multiplex serology, nasopharyngeal carcinoma, risk stratification signature, validation