SEROACTIVITY AGAINST EPSTEIN-BARR VIRUS (EBV) IN FAMILY MEMBERS OF EBV-ASSOCIATED NASOPHARYNGEAL CARCINOMA AND NON-FAMILY INDIVIDUALS

S.H. Hutajulu1, G.-. Argy2, C.-. Herdini2, B.-. Hariwiyanto2, B.R. Jati2, S. M. Haryana2, J.-. Fachiroh2, J.M. Middeldorp3

1Internal Medicine, Universitas Gadjah Mada/Dr. Sardjito General Hospital, Yogyakarta, INDONESIA
2Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta, INDONESIA
3Pathology, VU University Medical Center, Amsterdam, NETHERLANDS

Aim: Epstein-Barr virus (EBV) infection and family history are strong risk factors associated with undifferentiated nasopharyngeal carcinoma (NPC). The presence of aberrant immunoglobulin A (IgA) antibodies against specific EBV antigens in healthy individuals can be predictive of the disease. Unlike in familial NPC, very limited reports have explored the EBV IgA antibody presence within families of sporadic cases of NPC. The aim of this study is to determine whether EBV IgA was more frequently observed among healthy family members of sporadic cases of NPC compared to healthy non-family individuals.

Methods: First-degree relatives of NPC patients (n = 508) were recruited in a home visit program. Non-family individuals (n= 284) were recruited from Yogyakarta blood bank. Sera from all individuals were tested in standardized peptide-based EBV IgA ELISA and a positive result of seroreactivity was defined as OD450 >0.354, being the cut-off value (CoV). Data on demographic variables were collected using a questionnaire through face-to-face interviews.

Results: A total of 280 (35.4%) individuals showed seroreactivity of EBV IgA. A significant higher frequency was observed in the first-degree relatives of NPC cases than in non-family individuals (41.9% versus 21.2%, p< 0.001). In both groups, more female presented with higher seroreactivity compared to male (41.8% versus 30%, p= 0.007). More younger (≤ 40 years) and educated individuals presented with normal reactivity of EBV IgA (p= 0.340 and < 0.001, respectively).

Conclusions: Family members of NPC cases demonstrated higher level of EBV IgA seroreactivity compared to non-family individuals, implicating a suitability of screening program among this group.

Disclosure: All authors have declared no conflicts of interest.