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Abstracts

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Objective: To show the characteristics of nasopharyngeal cancer (NPC) patients, analyze the overall survival rate, and determine the factors that influence overall survival.

Methods: We recorded the characteristics of 500 newly diagnosed NPC patients between January 2007 and December 2011 who were treated in the Department of Radiotherapy in Dr. Cipto Mangunkusumo General Hospital. The overall survival (OS) of 398 patients was analyzed by Kaplan-Meier analysis, and multivariate analysis was performed using Cox proportional hazard ratio to identify dependent prognostic factors for survival.

Results: Most patients were male (71.6%) with a median age of 45 years (9 to 86 years). The main stage was IVB (28.09%) and the pathological type was WHO III (85.03%). A total of 398 patients were analyzed for the 3- and 5-year OS rates. The 3-year OS rates for stages I, IIA, IIB, III, IVA, and IVB were 100%, 67.5%, 72.7%, 57.5%, 48.9%, and 47.4%, respectively. By contrast, the 5-year OS rates for stages I, IIA, IIB, III, IVA, and IVB were 100%, 67.5%, 72.7%, 43.1%, 34%, and 35.1%, respectively. Univariate analysis showed that stages III and IVB, nodal status (N2 and N3), and overall treatment time of >49 worsened OS, whereas multivariate analysis showed that tumor stage was the only independent prognostic factor for survival ($P=0.049$).

Conclusion: NPC was 2.5 times more frequent in males than that in females, with WHO III being the most histopathological type. Tumor stage is an independent prognostic factor for survival.

Seroepidemiologic study on human papillomavirus as a risk factor for oral and pharyngeal cancer in Sri Lanka

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Objective: Oral and pharyngeal cancer (OPC) of multifactorial etiology is a major health problem in Sri Lanka. High-risk (HR) types of human papillomavirus (HPV) are significant risk

factors for OPC in many countries. Few data are available on the association between HPV and pharyngeal cancer in Sri Lanka. Thus, the relationship of HR-HPV16 and HR-HPV18 types with OPC in Sri Lanka was investigated.

Methods: The case-control study involved 78 OPC patients and 51 age- and gender-matched non-cancer control subjects. Socio-demographics and information on cigarette, alcohol, and betel consumption were acquired through an interview. The serum samples of study subjects were assayed for the presence of anti-HPV16 and anti-HPV18 virus-like particle (VLP)-specific IgG antibodies using an in-house established indirect enzyme-linked immunosorbent assay (ELISA). Optimum assay parameters for the indirect ELISA were established using checkerboard titrations. The cut-off values were determined using the mean \pm 2 SD of antibody response of the control group against HPV16 and HPV18 VLPs. Chi-square test was performed to determine the significance of the association between OPC and its risk factors. Logistic regression was used to calculate odds ratios (ORs) and 95% CIs, which were adjusted for the influence of other risk factors.

Results: Oncogenic HPV18 showed a higher rate of seropositivity in 32% of OPC patients and 2% of non-cancer control subjects. This result indicates an association with OPC with a momentous risk of 20.7-fold after removing variables contributed by other factors (adjusted OR = 20.785; 95% CI = 2.559 to 168.795). HR-HPV16 was detected in 23% of OPC patients and 5.88% of controls, which resulted in a 5.89-fold increase in risk after adjusting for smoking, alcohol, and betel quid (adjusted OR = 5.89; 95% CI = 1.466 to 23.676). Notably, this risk was not statistically significant in the presence of HPV18 as a risk factor (adjusted OR = 3.489; 95% CI = 0.829 to 14.683). Moreover, seven OPC patients were detected with both anti-HPV16 and anti-HPV18 antibodies. A 4.9-fold risk of developing OPC was also pronounced among smokers after accounting for other factors (adjusted OR = 4.916; 95% CI = 1.732 to 13.95) whereas alcohol, betel use, and poor dentition were not significantly associated with OPC. Statistically significant differences with regard to age, gender, smoking, alcohol, betel use, poor dentition, and site specificity of the tumor were not observed between HPV-seropositive and HPC-seronegative OPC patients.

Conclusion: This study was the first to investigate the established major risk factors with HR-HPV in the etiology of both oral and pharyngeal carcinoma in Sri Lanka. The results show a plausible association between HR-HPV and OPC with 46% of the case group being seropositive for HPV16/18. The implementation of suitable control measures is warranted. Knowledge on HPV status of an OPC patient at diagnosis may lead to de-escalation of treatment, which is cost effective and can reduce the morbidity of patients, rendering potential social and economic benefits to the country.