Clinical factors related to second primary lung cancer development in patients with head and neck cancer

Division of Oncology/Hematology, Department of Internal Medicine, Korea University College of Medicine, Seoul, Korea

*Eui Bae Kim, Yong Park, Seh Jong Park, Dae Sik Kim, Jae Won Kim, Hee Yoon Sook, Hwa Jung Sung, In Keun Choi, Kyong Hwa Park, Sang Cheul Oh, Chul Won Choi, Byung Soo Kim, Yeul Hong Kim, Sang Won Shin, Jun Suk Kim

Background: The rate of second primary lung cancer development in patients with HNC has been noted. The aim of our study was to evaluate the incidence and clinical features of second primary lung cancer development in patients with primary HNC

Methods: We conducted a retrospective study of 469 patients newly diagnosed with HNC at Korea University Medical Center between January 2000 and December 2006. Patients were included in the study if they had primary tumors originating from the oral cavity, nasal cavity, paranasal sinus, nasopharynx, oro-hypopharynx, larynx, and salivary gland. They were excluded if they had primary tumors originating from the skin, or if the cell type was lymphoma.

Results: A total of 469 patients were included in this study (389 men and 80 women). The median age of patients was 66.0 years. Eighteen patients (3.8%) were found to have second primary lung cancers. The statistically significant clinical variables for lung cancer development were the origin site of primary HNC (oro-hypopharynx and larynx) (p=0.048), abnormal chest x-ray findings (p=0.027), and histologic type of HNC (squamous cell carcinoma) (p=0.032). Among the 18 patients who developed second primary lung cancer, 13 already had abnormal chest x-ray findings at the time of diagnosis of HNC. The lung cancer cell types were confirmed to be squamous cell carcinoma (SCC) in 11 patients, small cell lung cancer (SCLC) in 3 patients, and undifferentiated non-small cell lung cancer (NSCLC) in 4 patients. Only 3 second primary lung cancers were detected synchronously with HNC. The other 15 second primary lung cancers were detected more than 6 months after HNC was diagnosed. The median overall survival time in second primary lung cancer patients with HNC was 72 months. However, when second primary lung cancers were combined in patients with HNC, the overall median survival time decreased to 16 months (p<0.001).

Conclusion: Considering the relative risk factors of second primary lung cancer development in patients with HNC, new strategies should be developed for the detection and follow up for lung lesions in this patient group.

Clinical implication of change in immune parameters: comparison between advanced cancer patients and normal volunteers

Department of Internal Medicine1 Cancer research institute2 Seoul National University College of medicine3

*Sung Hoon Sim1,3, Young-il Koh1,3, Hyun-Mi Bae1,3, Sun Joo Lee2,3, Ji Eun Yung3, Yong-Oon Ahn3, Tae Min Kim2,3, Se-Hoon Lee1,2,3, Dong-Wan Kim1,2,3, Dae Seog Heo1,2,3

Introduction: There is no specific immune marker to evaluate immuno-suppressive status of cancer patients. Immune markers such as CD124 and HLA-DR and with intracellular markers such as arginase (ARG), indoleamine 2, 3-dioxygenase (IDO) and inducible nitric oxide synthase (iNOS) have been known to be associated with the immune suppression and tumor progression. However, their clinical implication is not investigated yet.

Methods: 59 cancer patients were enrolled and blood samples were collected (38 samples from the terminal cancer patients, 21 samples from chemo-naive metastatic cancer patients). We also collected 11 samples from healthy donors for control. Surface and functional markers were analyzed by flow cytometry. Results: The mean fluorescence intensities (MFIs) of HLA-DR expression in CD14+ monocytes were significantly lower in cancer patients than in healthy donors (30.73±5.74 vs 44.11±7.18, p=0.031). However, there was no significant difference in CD125 expression. The MFIs of IDO were significantly higher in cancer patients than in healthy donors (4.02±0.85 vs 2.59±0.78, p=0.014 in monocytes, 4.77±3.3 vs 3.87±1.01 in granulocyte). Other functional markers such as ARG and iNOS were not different significantly. Among the cancer patients, response evaluation after 2 cycle of chemotherapy could be done in 8 patients (PR:4, SD:4). However, there was no difference in surface and functional markers between the different response groups (p > 0.05).

Conclusion: HLA-DR/CD14+ expression in immune cells was lower in cancer patients, in comparison to normal control. The clinical relevance of change in immune parameters will be presented.