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Title: Seroprevalence of human herpesvirus type 8 infection in patients with lung carcinoma

Dr. Shih-Ming 1232 Tsao tsmhwy@ms24.hinet.net MD [1], Dr. Chun-Liang 1236 Lai chunpo@yahoo.com.tw MD [2], Dr. Ming Nan 1237 Lin mingnan@yahoo.com.tw MD [3] and Dr. Cheng-Chuan 1238 Su sucpo@yahoo.com.tw MD [4]. [1] Chest Medicine, Chung Shan Medical University Hospital, Taichung, Taiwan, 40201 ; [2] Chest Medicine, Buddhist Dalin Tzu Chi General Hospital, Chiayi, Taiwan, 622 ; [3] Family Medicine, Buddhist Dalin Tzu Chi General Hospital, Chiayi, Taiwan, 622 and [4] Clinical Pathology, Buddhist Dalin Tzu Chi General Hospital, Chiayi, Taiwan, 622 .

Body: Background: Human herpesvirus type 8 (HHV-8) DNA is found consistently in all types of Kaposi's sarcoma (KS), which is sometimes seen in human immunodeficiency virus (HIV) non-infected patients with immunologic abnormalities. Lung carcinoma is one of the most common malignancies developing in immunocompromised patients. However, the prevalence of HHV-8 infection in lung carcinoma patients is unclear. Methods: Blood samples were collected from 109 lung carcinoma patients with malignant pleural effusion and 109 age-matched healthy controls and analyzed for lymphocyte and monocyte counts, and presence of HHV-8 antibody and DNA. All study subjects were negative for anti-HIV antibodies. Results: Lung carcinoma patients had significantly lower mean lymphocyte counts and significantly higher monocyte counts than the healthy controls ($P < 0.001$). Three patients with lymphopenia and stage IV tumor were positive for HHV-8 DNA , one of them was negative for HHV-8 antibody. HHV-8 positivity was significantly higher in patients (42.2%), particularly in male patients (50.8%), than in healthy controls (24.8%) ($P = 0.006$ and < 0.001, respectively). HHV-8 positivity was significantly greater in male patients (50.8%) than in female patients (29.5%) ($P = 0.028$), and in patients with stage IV tumors somewhat greater than with stage III B tumors ($P = 0.416$). HHV-8 antibody titers in patients also significantly exceeded those in healthy controls ($P = 0.004$). All subjects positive for HHV-8 were not associated with clinical manifestations of HHV-8 infection. Conclusions: HHV-8 seroprevalence was significantly greater in lung carcinoma patients than in healthy controls, and associated with gender.