Clinical study of hemagglutinating virus of Japan envelope against chemotherapy resistant pleural mesothelioma

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Hemagglutinating virus of Japan envelope (HVJ-E) developed from HVJ virus. HVJ was first discovered in Japan in 1950's. It is mouse parainfluenza virus, not human pathogen. The virus has become very famous, since the discovery of virus-mediated cell fusion. Using the fusion activity of HVJ, a versatile drug delivery system mainly gene transfection was developed. Recently we discovered that HVJ-E possesses the various antitumor activities. One is enhancing antitumor immunities such as activation of dendritic cells, induction of natural killer cells and cytotoxicic T lymphocytes and suppression of regulatory T cells. Other activities are direct tumor-killing by the induction of cell death through the RIG-I/MAVS pathway. We already finished phase I trial against melanoma and castration resistant prostate cancer. Then, we did the phase I dose escalation safety/tolerability and preliminary efficacy study of intra-tumoral and subsequent subcutaneous administration of HVJ-E to the patients suffering from chemotherapy-resistant pleural mesothelioma who had not receive chemotherapy in the last 4 weeks, had a performance status of 0-1, had certain functions of bone marrow, liver, kidney and lung, had evaluable lesion with Computed Tomography and FDG-PET scan, had lesion which can be administrated with HVJ-E. Exclusion criteria is presence of autoimmune disease, interstitial pneumonia needed to treat and other malignant lesions, use of systemic steroids, a protocol is consisted of initial-tumor administration of HVJ-E and the subsequent three subcutaneous administrations within two weeks and then washed out for two weeks. This one cycle is repeated twice. Six patients were registered and they were finished receiving this clinical trial. The adverse events were evaluated by independent data monitoring committee. We will show the data of AEs and antitumor efficacy of HVJ-E in this clinical trial.

Biography

Chunmna Lee has his expertise in evaluation and passion in improving the antitumor efficacy of novel formulations against cancer dissemination. He started his career as a Surgeon at Osaka University Hospital and passed through the Surgery program of Osaka University Graduate School of Medicine. He has then worked at University of Texas Southwestern Medical Center at Dallas as a Postdoctoral Fellow. Presently he researches the immunotherapy against pleural mesothelioma which is very refractory disease at Osaka University Hospital as an Associate Professor.

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