

POSTER PRESENTATION

Open Access

Expression of cancer-testis antigen in patients with non-small cell lung cancer and its clinical relevance

Xin-Feng Chen^{1,2*}, Meng Wang¹, Dong-Li Yue^{1,2}, Jin-Yan Liu¹, Lan Huang¹, Feng Li¹, Song Zhao³, Yu Qi³, Wei Hu³, Xiang-Nan Li³, Yi Zhang^{1,2,4}

From Society for Immunotherapy of Cancer 28th Annual Meeting National Harbor, MD, USA. 8-10 November 2013

Background

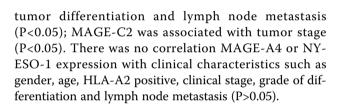
Lung cancer is the most common cause of cancer-related mortality worldwide. Survival rates after non-small cell lung cancer (NSCLC) diagnosis still remain poor, despite standardization of surgery and adjuvant treatment. Cancer testis (CT) antigens as targets for immunotherapy in cancer patients have been heavily investigated. We aim to evaluate the expression of CT antigens in non-small cell lung cancer and the correlation with the clinical characteristics.

Methods

The expression of MAGE-A3, MAGE-A4, MAGE-C2 and NY-ESO-1 in fresh cancer tissues from 113 patients with non-small cell lung cancer were analyzed by RT-PCR. The expression of HLA-A2 was detected by flow cytometry.

Results

49.6% non-small cell lung cancer samples were HLA-A2 positive. CT antigens were frequently expressed in nonsmall cell lung cancer. The expression percentage of each gene in cancer tissues samples were as follows: MAGE-A3, 70.8%; MAGE-A4, 46.9%; MAGE-C2, 61.1%; and NY-ESO-1, 15.0%. In all, Seventeen tissues did not express any of the CT antigens tested, 85.0% expressed at least one, 66.4% co-expressed two, 34.5% co-expressed three, 6.2% co-expressed four examined CT antigens. The percentage of samples co-expression HLA-A2 and CT genes were: MAGE-A3, 51.6%; MAGE-A4, 36.3%; MAGE-C2, 44.0%; and NY-ESO-1, 12.1%. MAGE-A3 was associated with male, smoking history, tumor stage,



Conclusion

CT antigens might be prognostic markers and factors related to the progress of NSCLC, and also be served as the immunotherapeutic targets of NSCLC, especially in multi-antigen vaccine preparations and tumor antigen specific lymphocytes infusion.

Authors' details

¹Biotherapy Center, the First Affiliated Hospital of Zhengzhou University, Zhengzhou, China. ²Department of Oncology, the First Affiliated Hospital of Zhengzhou University, Zhengzhou, China. ³Department of Thoracic Surgery, the First Affiliated Hospital of Zhengzhou University, Zhengzhou, China. ⁴Department of Biological Engineering, Zhengzhou University, Zhengzhou, China.

Published: 7 November 2013

doi:10.1186/2051-1426-1-S1-P246

Cite this article as: Chen *et al.*: **Expression of cancer-testis antigen in patients with non-small cell lung cancer and its clinical relevance**. *Journal for ImmunoTherapy of Cancer* 2013 **1**(Suppl 1):P246.



© 2013 Chen et al; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

¹Biotherapy Center, the First Affiliated Hospital of Zhengzhou University, Zhengzhou, China

Full list of author information is available at the end of the article