



Category: Tumor Biology 28

Session Title: Determinants Of Metastasis

#3691 Detection of circulating tumor cells in newly diagnosed or relapsed lung cancer patients and the significance of CTC enumeration in patient staging. Long-Yun Li¹, Xiao-Yun Zhou¹, Huai-Jie Hao², Meng-Zhao Wang¹, Zi-Jian Guo¹, Shu-Lan Wang², Xiao-Yan Xing², Gioulnar Harvie², Elizabeth Vuong², Wen-Ge Shi², Meng-Jia Tang², Jian-Yu Rao³, Tony Reid⁴, Ross Bremner⁵, Ping Lin², Jia Xu². ¹Dept. of Respiratory Diseases, PUMC Hospital, Beijing, China; ²AVIVA Biosciences, San Diego, CA; ³Dept. of Pathology, UCLA Medical Center, Los Angeles, CA; ⁴UCSD Moore Cancer Center, San Diego, CA; ⁵Heart & Lung Institute, St. Joseph's Hospital and Medical Center, Phoenix, AZ.

Objectives: 1) To evaluate the correlation between CTC number and the patient clinical staging of newly diagnosed or relapsed non-small cell lung cancer (NSCLC) patients; 2) To compare CTC enumeration and CT imaging for treatment response monitoring.

Background: Isolation of lung cancer CTC from patient peripheral blood has long been problematic. Here, we report that our negative depletion based enrichment method can enrich CTCs from peripheral blood of lung cancer patients and enables their identification by immunostaining

Method: In this blind study, newly diagnosed or relapsed NSCLC patients without prior treatment were enrolled. 7.5 ml blood from each patient was analyzed before and after chemotherapy. Follow-up study was performed on selected patients during various time points of chemotherapy cycles.

Result and Significance: 60% of relapsed or newly diagnosed patients with different pathological staging were found positive for CTC. The number of CTC correlates with staging of newly diagnosed lung cancer patients. Results from CTC enumeration is consistent with results from imaging analysis based on RECIST criteria. Our results indicate that CTC detection may provide significant value in monitoring treatment response and relapse of NSCLC patients.

Citation Format

Li L, Zhou X, Hao H, Wang M, Guo Z, Wang S, Xing X, Harvie G, Vuong E, Shi W, Tang M, Rao J, Reid T, Bremner R, Lin P, Xu J. Detection of circulating tumor cells in newly diagnosed or relapsed lung cancer patients and the significance of CTC enumeration in patient staging [abstract]. In: Proceedings of the 99th Annual Meeting of the American Association for Cancer Research; 2008 Apr 12-16; San Diego, CA. Philadelphia (PA): AACR; 2008. Abstract nr 3691.