



**Category: Tumor Biology 28**

**Session Title: Determinants Of Metastasis**

**#3694 Preliminary investigation of lung cancer CTC distribution in patient body circulation.** Hui-Qin Guo<sup>1</sup>, Huai-Jie Hao<sup>2</sup>, Ze-Jian Li<sup>1</sup>, Yi-Ming Zhu<sup>1</sup>, Jie Sun<sup>1</sup>, Feng Ge<sup>1</sup>, Shu-Lan Wang<sup>2</sup>, Xiao-Yan Xing<sup>2</sup>, Gioulnar Harvie<sup>2</sup>, Elizabeth Vuong<sup>2</sup>, Jian-Yu Rao<sup>3</sup>, Ross Bremner<sup>4</sup>, Tony Reid<sup>5</sup>, Ping Lin<sup>2</sup>, Jia Xu<sup>2</sup>. <sup>1</sup>Department of Thoracic Surgery, Peking Union Medical College Hospital, Beijing, China; <sup>2</sup>AVIVA Biosciences Corp., San Diego, CA; <sup>3</sup>Department of Pathology, UCLA Medical Center, Los Angeles, CA; <sup>4</sup>Heart & Lung Institute, St. Joseph's Hospital and Medical Center, Phoenix, AZ; <sup>5</sup>Moore Cancer Center, UCSD, San Diego, CA.

**Objective:** To determine and compare lung cancer circulating tumor cells enriched from blood obtained at different sites of body circulation

**Background:** Surgery is considered the primary therapy approach for lung cancer patients at early stages. However, as high as 50% of those patients subjected to operation may develop metastases within 5 years after surgery. A reliable quantification method such as counting CTC is desired to help detecting metastasis and to monitor therapeutic progress. Comparing with breast cancer, the detection of CTCs from lung cancer patients with regular blood collecting approach from arm vein is relatively more difficult, even in severe metastatic patients. In this study, we compared the CTC count from blood samples collected from different locations of the circulation of metastatic lung cancer patients, including pulmonary vein, radial artery and peripheral blood.

**Method:** Only diagnostically confirmed metastatic lung cancer patients were recruited in this study. For each patient, 7.5 ml blood were collected from peripheral blood right before and one day after operation, and also from pulmonary vein as well as radial artery during operation. Blood were subjected to negative depletion to enrich CTC. Potential contamination of epithelial cells released from surgery was appropriately avoided during collecting blood.

**Result and Significance:** We observed a significant difference in the distribution of CTCs from blood drawn from different sites of circulation. Our results suggest that significant number of lung cancer CTCs might be either destroyed or filtered out before they reach the venous site of circulation.

**Citation Format**

Guo H, Hao H, Li Z, Zhu Y, Sun J, Ge F, Wang S, Xing X, Harvie G, Vuong E, Rao J, Bremner R, Reid T, Lin P, Xu J. Preliminary investigation of lung cancer CTC distribution in patient body circulation [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 3694.