

Spotlight on circulating tumour cells

This focused issue of *Translational Lung Cancer Research* aims to capture the progress that has been made in the past decade to understand the biology and clinical significance of circulating tumour cells (CTCs) in patients with lung cancer. Crucially, understanding cancer evolution in lung cancer and its associated resistance to therapy can only be achieved with repeated sampling and analysis of the cancer. CTCs provide a readily obtained liquid biopsy and offer unprecedented potential to inform on new treatment strategies. Several platforms now exist for CTC isolation, enumeration and analysis. CTC enumeration is of proven prognostic utility in patients with lung cancer and the demonstration that CTC derived tumour explant models (CDX models) can be established that recapitulate response to treatment in the donor patient provides a new foundation for discovery of biology, preclinical drug development and even co-clinical trials. CTC subpopulations exist for which their significance for prognostication, prediction of treatment response and contribution to disease biology is an emerging focus of research. Similarly, the CTC microenvironment, interactions with macrophages and other cells of the immune and haemopoetic systems now warrants increased attention. The reader will be orientated to the challenges and unanswered questions that remain for the next decade of CTC research in lung cancer. While there is still plenty of work to do the future looks bright for CTCs to inform better understanding of lung cancer biology and as biomarkers that can be exploited for improved therapeutic control throughout the disease trajectory.



Fiona Blackhall



Caroline Dive

Fiona Blackhall^{1,2}

¹Department of Medical Oncology, The Christie NHS Foundation Trust, Manchester, UK; ²Division of Cancer Sciences, University of Manchester, Manchester, UK. (Email: Fiona.Blackhall@christie.nhs.uk)

Caroline Dive³

³Cancer Research UK Lung Cancer Centre of Excellence, CRUK Manchester Institute, University of Manchester, Manchester, UK. (Email: caroline.dive@manchester.ac.uk)

doi: 10.21037/tlcr.2017.08.05

Conflicts of Interest: The authors have no conflicts of interest to declare.

View this article at: <http://dx.doi.org/10.21037/tlcr.2017.08.05>

Cite this article as: Blackhall F, Dive C. Spotlight on circulating tumour cells. *Transl Lung Cancer Res* 2017;6(4):396. doi: 10.21037/tlcr.2017.08.05