

32nd Euro Congress on

Cancer Science & Therapy

March 07-08, 2019 | Barcelona, Spain



Georgia Zhuo Chen

Emory University-School of Medicine, USA

Optimization of EGFR-based targeted therapy and beyond

Cetuximab is a chimerized antibody against epidermal growth factor receptor (EGFR) and the only approved targeted agent for squamous cell carcinoma of the head and neck (SCCHN) in the US except newly developed immunotherapies. However, intrinsic and acquired resistance to EGFR targeted therapy inevitably occurs. Compensatory signaling from c-Met, HER3 and other (ErbB or HER) family members has been linked to the decreased sensitivity to EGFR-based therapy in SCCHN. We found that the expression of the HER3 activation ligand HRG1 is elevated in SCCHN compared to other solid tumors and HRG1 is an independent prognostic factor in SCCHN regardless of HPV status, suggesting a significant role of HER3 activation through HRG1 or its heterodimer partners (EGFR, HER2, and c-Met) in resistance to EGFR therapy. Simultaneously targeting c-Met and HER family members for treatments of the tumors resistant to EGFR-based therapy has shown better efficacies than any of the single targeting in animal models. In addition, accumulated evidence suggests that antibody dependent cellular cytotoxicity (ADCC) of cetuximab might result in upregulation of INF γ , while INF γ induces the expression of programmed death ligand-1 (PD-L1), an immune checkpoint receptor ligand, contributing to cetuximab resistance through an immune escape mechanism. We have recently demonstrated that the combination of cetuximab with a HER3 antibody down regulates PD-L1 more effectively than each antibody alone. It is expected therefore that elimination of intrinsic upregulation of PD-L1 using this combination may alter the T-cell profile *in vivo*.

Biography

Georgia Zhuo Chen is a Professor of Hematology and Medical Biology at Emory University. She has received several awards from the US National Institutes of Health (NIH) as a PI in the study of lung and head and neck cancers in the past years. She has generated more than 160 publications in peer-reviewed journals and serves as an Editorial Board Member for 5 journals. She has received the NIH Career Development Award in 1998 and an award as a Georgia Cancer Coalition Distinguished Cancer Scholar in 2006.

gzchen@emory.edu

Notes: