Preface on small cell lung cancer

Small cell lung cancer (SCLC) is one of the four major histologic types of lung cancer. This disease has been notable for the absence of major improvements in its treatment. Nearly four decades after the introduction of a platinum-etoposide doublet, therapeutic options have remained virtually unchanged, with correspondingly little improvement in survival rates. For these reasons SCLC was declared a "recalcitrant" cancer. Since the approval of topotecan in 1996, the US Food and Drug Administration (FDA) has not approved any new drugs for the treatment of SCLC patients. There are no accepted regimens for patients whose disease has progressed after first- and second-line treatments. This is in stark contrast to the progress that has been made in non-small cell lung cancer (NSCLC). Despite the paucity of therapeutic advances in SCLC, considerable therapeutic opportunities, including targeted therapies, exist because of recent developments in understanding the biology and molecular biology of the disease.

In this special issue of the *Translational Lung Cancer Research* (*TLCR*), we have asked clinical, translational, and basic science investigators to offer their knowledge share their experiences on this disease and speculate what we expect for the future of SCLC patients. We are delighted to present state of the art reviews on topics of interest, including: the pathogenesis of SCLC and the multiple aberrant pathways and mutations, leading to its unique biology and clinical features; the meaningful progress, that though slow, has pointed to a number of new targets of interest; the instrumental role of mouse models exploring the Hedgehog and Notch pathways, among others, leading to the development of clinical trials; clinical studies that attempt to target *MYC*- and *FGFR1*-amplified SCLC and to disrupt DNA repair pathways to cause apoptosis or to modulate the immune response in SCLC as a treatment modality. Specific barriers and challenges inherent to SCLC research and care that have limited progress in novel therapeutic development to date are also summarized. We are optimistic that that you will find this special issue an essential reference in your practice and an inspiration for novel approaches for this disease.

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