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Summary report on small cell lung cancer research points to progress and challenges

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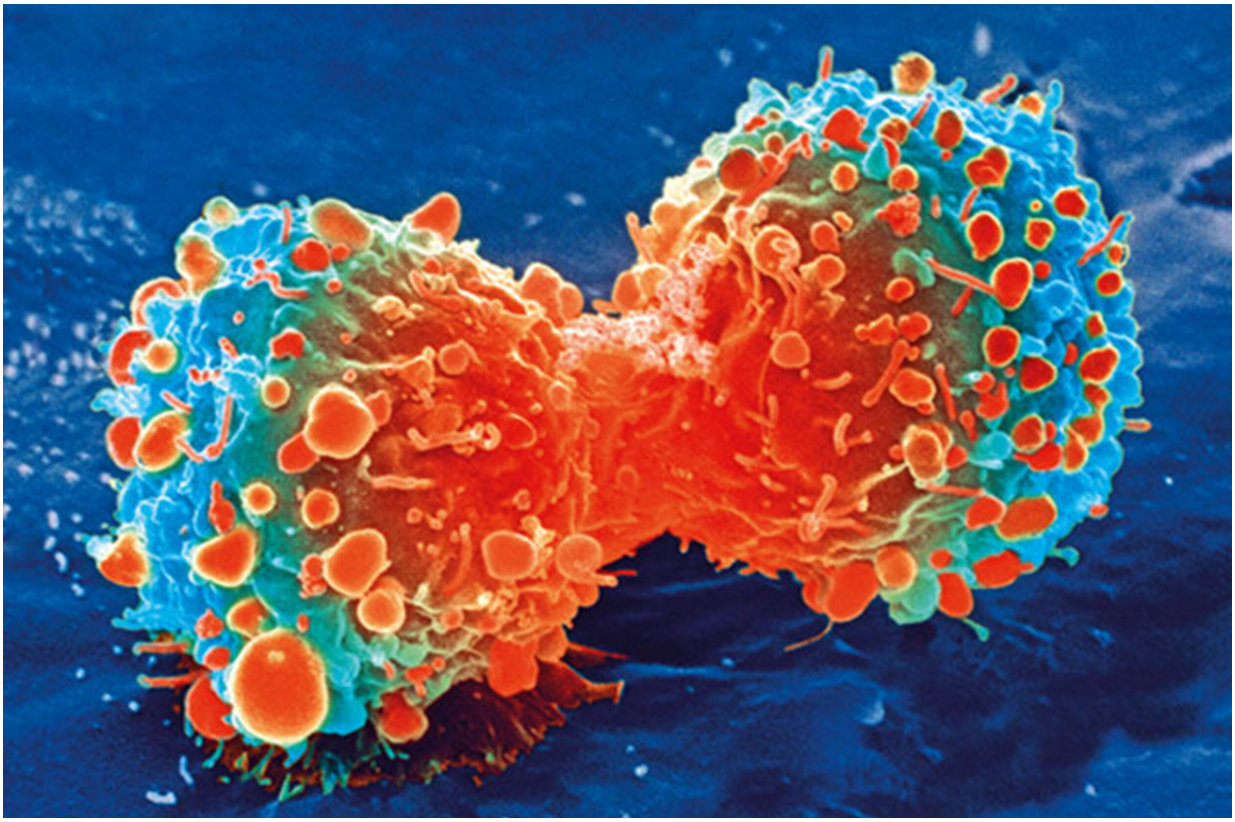

Cancer cell during cell division. Credit: National Institutes of Health

In 2017, a group of lung cancer experts posed the question: "Can recent advances in tumor biology that have led to progress treating non-small cell lung cancer translate into improved outcomes for small cell lung

cancer?"

According to the article "New Approaches to Small Cell Lung Cancer Therapy: From the Laboratory to the Clinic," published in the February issue of the *Journal of Thoracic Oncology*, the answer is "yes."

The article summarizes work presented at the Third Biennial IASLC Small Cell Lung Cancer Meeting and includes unpublished data from a variety of researchers in the field as presented at the 2019 IASLC SCLC Workshop.

Small cell lung cancer accounts for approximately 13% of all new lung cancer diagnoses. Patient outcomes have not yet been significantly impacted by the revolution in precision oncology, primarily due to a paucity of genetic alterations in actionable driver oncogenes.

The authors report that systemic therapies that include immunotherapy are beginning to show promise in the clinic. While these results are encouraging, many patients do not respond to or rapidly recur after current regimens, necessitating alternative or complementary therapeutic strategies.

In this review, the authors discuss ongoing investigations into the pathobiology of this recalcitrant cancer and the therapeutic vulnerabilities that are exposed by the disease state. Included within this discussion is a snapshot of the current biomarker and clinical trial landscapes for small cell lung cancer. The researchers identify key knowledge gaps that should be addressed in order to advance the field in pursuit of reduced small cell lung cancer mortality.

The authors point to the advantage of the recent addition of immune checkpoint blockade to first-line chemotherapy in extensive-stage SCLC. This has been the first significant improvement in several

decades. However, the authors acknowledge that while the magnitude of the treatment effect was encouraging, it was modest at best. Beyond the addition of immunotherapy, the exploration of underlying disease mechanisms and the development of candidate predictive biomarkers remains in its infancy. There are discrete molecular subtypes of SCLC that can differ in their response to different therapies in preclinical models of the disease, providing a rich and untapped resource to mine for new therapeutic abilities.

"In light of the limited durability of benefit from current therapies, it is critical to continue to explore new biomarker-directed therapeutic strategies and treatment combinations both in the laboratory and the clinic," the report states. "Further exploration of the processes that drive different molecular subtypes of SCLC and the therapeutic liabilities induced by these states is warranted."

More information: John T. Poirier et al, New approaches to small cell lung cancer therapy : from the laboratory to the clinic, *Journal of Thoracic Oncology* (2020). DOI: 10.1016/j.jtho.2020.01.016

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