

MARKET **RESEARCH** REPORT

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MITIGATION OF SEVERE ADVERSE REACTIONS WITH THE USE OF CHECKPOINT INHIBITORS IN CANCER TREATMENT

Report N° 3-701-20

Contributors Steven Delco, Healthcare Analyst and Immunologist Suzanne Solensky, Research Director

Wil Wiener, Research Assistant

Executive Summary

Immunotherapy is truly the leading edge of cancer treatment: seven different checkpoint inhibitors (CIs) have received FDA approval for over 50 indications, with many approvals coming in just the past five or so years. In addition, about two dozen novel checkpoint inhibitors are being tested. But studies have reported that anywhere between 15 and 80 percent of patients in late-stage clinical trials experience adverse events, some of them sudden and severe – and patients on approved CI regimens often present with high fevers, inflammation, infections, and other life-threatening conditions as a result of treatment. To deal with those reactions, physicians can follow standard guidelines, or better still, they can use genetic-mapping tools to pinpoint which types of cancers – and which patients – will likely respond to checkpoint inhibitors.

"Nonetheless, these severe adverse reactions pose a major obstacle to widespread usage of checkpoint inhibitors, because – even with the advances in genetic mapping and in clinical protocols – it can be hard to predict which patients will experience them and even harder to treat them," according to Steven Delco, founder of Survive Cancer and president of Delco Advisors, LLC. Adds Delco, "Despite taking all possible precautions to minimize the potential risks of these powerful drugs, some oncologists feel that using immunotherapy is, in essence, playing a game of Russian roulette."

Clinical practices

In addition to exploring advances in the development of checkpoint inhibitors, the Survive Cancer report will extensively survey their clinical usage, especially the factors that oncologists consider in deciding whether and how to include Cls in a particular patient's care. The report will focus as well on the ways in which clinicians and scientists are mitigating the severe adverse reactions (SARS) that may occur.

We will interview leading oncologists, physician-scientists, and opinion leaders from institutions including:

- MD Anderson
- Memorial Sloan Kettering
- The Mayo Clinic
- Dana-Farber
- Sidney Kimmel Cancer Center at Johns Hopkins

- Yale New Haven Hospital
- NCI-NIH
- Seattle Cancer Care Alliance
- Cleveland Clinic
- Hospitals of the University of Pennsylvania-Penn Presbyterian



Sample questions:

- How has your experience with severe adverse reactions affected your further use of checkpoint inhibitors?
- Do treatments for SARS have the potential to put patients at significant risk for primary disease complications?
- How do SARS and their treatments impact the financial cost-effectiveness of immunotherapies?
- How can pharmaceutical and biotech companies improve identification of and education about potential risks for SARS?
- What are your most important concerns about using checkpoint inhibitor drugs in cancer treatment?

Survive Cancer Inc. is focused on the education, facilitation, and navigation of cancer recovery from diagnosis through survivorship.

We help people with cancer find the best information to understand their disease and treatment options, and we enhance their search for the newest medical treatments that science can offer. As a nonprofit organization, we will provide these services at no charge to our clients.

Market analysis

An overview of the global market will put the use of checkpoint inhibitors in context.

- Global market trends for checkpoint inhibitors, including potential expansion into Europe and Asia
- The role of newly emerging diagnostics and personalized assessments that are integral to deciphering disease progression
- Market shares by types of products as well as by types of cancers and biomarkers
- Company profiles of key players in the market, along with market shares and descriptions of their products
- Several dozen tables, including:
- A list of all approved checkpoint inhibitors, with indications and dates of approval
- A comprehensive list of checkpoint inhibitors in development and testing

Subscribers will receive a comprehensive research report based on the results of the interviews and other industry data.

Contributors

Steven Delco, Healthcare Analyst and Immunologist

Mr. Delco has worked in the life sciences industry for over thirty years as an educator, scientist, securities analyst, hedge fund manager, and CEO. His career began when he leveraged his undergraduate work in biology and chemistry and his doctoral studies in immunochemistry to innovate and succeed in the emerging healthcare biotechnology industry of the 1980s. In 1982 he founded the first biotech market research firm, and in 1996 he began publishing Biovest, one of the first biotech investment newsletters. He then excelled in working for several leading investment firms. At Miller Tabak he was ranked the top biotech analyst in the industry in 1999 based on a 296% return. At Fortis Bank and Natexis Bleichroeder he built and managed world-class biotech investment research teams. As principal portfolio manager in health at Weiss Peck & Greer/Robeco, Mr. Delco achieved a composite performance of over 52%. Recognized internationally as a thought leader at the intersection of biotechnology and finance, he has been quoted in, among other publications, the Wall Street Journal, Bloomberg Online, and Reuters and has also contributed regularly to Forbes.com.

As president of Survive Cancer, Mr. Delco is now seeking to connect cancer patients with immunotherapies, genomic testing, and other potentially life-saving research. He has been an active member of the board of directors of Gateway for Cancer Research, which funds innovative clinical trials.

Suzanne Solensky, Research Director

Ms. Solensky, who holds degrees from Yale University and Wesleyan University, is an experienced educator, writer, and administrator with a long-standing commitment to mission-driven institutions. Among her many professional experiences is work as a full-time writer and researcher with a specialization in science, medicine, and health topics.

Wil Wiener, Research Assistant

Wil Wiener is a graduate of the University of North Carolina at Chapel Hill, with a BS in quantitative biology. His past research topics include group dynamics in bird flocks, blood vessel development in mice, and the impacts of radiation on the cell cycle, but nothing has captured his imagination in the same way as the vast implications of immunotherapy.

Report N° 3-701-20 "Mitigation of Severe Adverse Reactions with the Use of Checkpoint Inhibitors in Cancer Treatment" Price \$15,000 With prepayment discount of 20% and participation in questionnaire development

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