

June 16, 2016



OncoSec Presents Preliminary Findings from Head and Neck Phase II Clinical Trial at EUROGIN 2016 Conference

ImmunoPulse™ IL-12 May Lead to Increased CD8+ T-Cell Infiltration in Patients with Squamous Cell Carcinoma of the Head and Neck, Suggesting That It May Prime Responses to Anti-PD-1 Blockade

SAN DIEGO, June 16, 2016 /PRNewswire/ --OncoSec Medical Incorporated ("OncoSec") (NASDAQ: ONCS), a company developing DNA-based intratumoral cancer immunotherapies, today presented preliminary findings from OMS-I130, a Phase II clinical trial of ImmunoPulse™ IL-12 in patients with treatment-refractory, metastatic and unresectable squamous cell carcinoma of the head and neck (HNSCC). These preliminary findings, indicating that ImmunoPulse™ IL-12 may lead to an increase in CD8+ T-cells and 'adaptive immune resistance' in HNSCC patients, are consistent with preclinical and clinical data previously reported in other indications. Together, the data from these multiple studies support a rationale for combining ImmunoPulse™ IL-12 with anti-PD-1 blockade therapies.

Robert H. Pierce, MD, Chief Scientific Officer at OncoSec, presented the findings in an oral presentation entitled: "Intratumoral IL-12 Therapy in HNSCC: Can In-Situ Vaccination Solve the Problem of Anti-PD-1 Non-Response?" at the EUROGIN 2016 Conference in Salzburg, Austria. The oral presentation is part of the conference session entitled: "Updates on Immunotherapy Trials in HPV-HNSCC," chaired by Sara I. Pai, MD, PhD, a faculty member at Massachusetts General Hospital and Harvard Medical School and co-author of the abstract.

Dr. Pierce described a role for intratumoral immunotherapy in driving anti-tumor CD8+ responses and altering the immune environment to enable tumors to become responsive to anti-PD-1 blockade. Specifically, Dr. Pierce described new cases from the single-agent ImmunoPulse™ IL-12 Phase II HNSCC trial, in which intratumoral electroporation of DNA-based IL-12 drove a CD8+ T-cell response and associated increase in interferon-gamma-related genes in some patients. Moreover, one patient, who went on to receive anti-PD-1 therapy in combination with ImmunoPulse™ IL-12, experienced a significant tumor regression and has an ongoing partial response.

"Although we have treated only four patients to date, these data in patients with head and neck cancer are entirely consistent with our previous studies in melanoma and Merkel cell carcinoma as well as our preclinical models—namely, that in-situ vaccination with plasmid IL-12 can convert low-TIL, poorly-inflamed tumors into high-TIL inflamed tumors. That conversion may augment responses to T-cell checkpoint therapy, such as anti-PD-1 antibodies," said Dr. Pierce.

The lead investigators for OMS-I130 are Tanguy Seiwert, MD, from the University of

Chicago and Alain Algazi, MD, from the University of California, San Francisco. OMS-I130 is a single-arm, open-label study evaluating the safety and anti-tumor activity of ImmunoPulse™ IL-12 in patients with treatment-refractory metastatic and unresectable HNSCC. The trial (NCT02345330) is open, but currently not recruiting patients.

"We have paused enrollment in the HNSCC trial for two main reasons. First, we are currently focusing our internal resources on moving toward a registration trial in melanoma. Additionally, our strategy is aimed at demonstrating that ImmunoPulse™ IL-12 is a rational choice for combination therapy with anti-PD-1/PD-L1 and that ImmunoPulse™ IL-12 will increase the number of patients who will benefit from these treatments," said Punit Dhillon, President and CEO. "As approval of one or more of the PD-1/PD-L1 antibodies in HNSCC seems likely in the near term, we will explore a combination of our technology with the approved agent at that time."

About OncoSec Medical Incorporated

OncoSec is a biotechnology company developing DNA-based intratumoral immunotherapies with an investigational technology, ImmunoPulse™, for the treatment of cancer. ImmunoPulse™ is designed to enhance the local delivery and uptake of DNA-based immune-targeting agents, such as IL-12. In Phase I and II clinical trials, ImmunoPulse™ IL-12 has demonstrated a favorable safety profile and evidence of anti-tumor activity in the treatment of various skin cancers and has shown the potential to reach beyond the site of local treatment to initiate a systemic immune response. OncoSec's lead program, ImmunoPulse™ IL-12, is currently in clinical development for several indications, including metastatic melanoma and triple-negative breast cancer. In addition to ImmunoPulse™ IL-12, the Company is also identifying and developing new immune-targeting agents for use with the ImmunoPulse™ platform. For more information, please visit www.oncosec.com.

Cautionary Note Regarding Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. Forward-looking statements can be identified by words such as "can," "may," "will," "suggest," "look forward to," "potential," "understand," and similar references to future periods.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on management's current preliminary expectations and are subject to risks and uncertainties, which may cause our results to differ materially and adversely from the statements contained herein. Potential risks and uncertainties that could cause actual results to differ from those predicted include, among others, the following: uncertainties inherent in pre-clinical studies and clinical trials, such as the ability to enroll patients in clinical trials and the risk of adverse events; unexpected new data, safety and technical issues; our ability to raise additional funding necessary to fund continued operations; and the other factors discussed in OncoSec's filings with the Securities and Exchange Commission.

Undue reliance should not be placed on forward-looking statements, which speak only as of the date they are made. OncoSec disclaims any obligation to update any forward-looking statements to reflect new information, events or circumstances after the date they are made, or to reflect the occurrence of unanticipated events.

CONTACT:

Mary Marolla

OncoSec Medical Incorporated

855-662-6732

media@oncosec.com



ONCOSECTM

Logo - <https://photos.prnewswire.com/prnh/20120905/LA68078LOGO>

To view the original version on PR Newswire, visit <http://www.prnewswire.com/news-releases/oncosec-presents-preliminary-findings-from-head-and-neck-phase-ii-clinical-trial-at-eurogin-2016-conference-300285668.html>

SOURCE OncoSec Medical Incorporated