

FIANLIMAB-BASED COMBINATION THERAPIES IN PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER: TRIALS IN PROGRESS UPDATES

Tamar Melkadze¹, Miranda Gogishvili², Tamta Makharadze³, Ekaterine Arkania⁴, Vladimer Kuchava⁵, Ki Hyeong Lee⁶, Daniel Brungs⁷, Nana Chikhladze⁸, Hee Kyung Ahn⁹, Jason Porter¹⁰, Sarah Goldberg¹¹, Martin Reck¹², Solange Peters¹³, Ana Baramidze^{1*}

¹*Todua Clinic, Tbilisi, Georgia*

²*High Technology Medical Center, University Clinic, Tbilisi, Georgia*

³*LTD High Technology Hospital Med Center, Batumi, Georgia*

⁴*LTD Israeli-Georgian Medical Research Clinic "Helsicore", Tbilisi, Georgia*

⁵*LTD Institute of Clinical Oncology, Tbilisi, Georgia*

⁶*Chungbuk National University Hospital, Chungbuk National University College of Medicine, Cheongju, Republic of Korea*

⁷*Southern Medical Day Care Centre, Wollongong, NSW, Australia*

⁸*JSC Vian Caraps Medline, European University, Tbilisi, Georgia*

⁹*Division of Medical Oncology, Department of Internal Medicine, Gachon University Gil Medical Center, Incheon, Republic of Korea*

¹⁰*West Cancer Center & Research Institute, Germantown, TN, USA*

¹¹*Yale School of Medicine, New Haven, CT, USA*

¹²*Department of Thoracic Oncology, Airway Research Center North, German Center for Lung Research, LungenClinic, Grosshansdorf, Germany*

¹³*Lausanne University Hospital, Lausanne, Switzerland*

Corresponding Author: Ana Baramidze baramidzeana@gmail.com

Background: Fianlimab (anti-lymphocyte activation gene 3) and cemiplimab (anti-programmed cell death-1 [PD-1]) are high-affinity, fully human monoclonal antibodies. Cemiplimab has shown promising clinical efficacy in patients with non-small cell lung cancer (NSCLC) and no actionable mutations, alone (PD-ligand 1 [PD-L1] expression $\geq 50\%$) and in combination with chemotherapy (regardless of PD-L1 expression). As the standard of care for NSCLC continues to evolve, combination therapy with multiple checkpoint inhibitors \pm chemotherapy could improve outcomes. In a study of fianlimab + cemiplimab (NCT03005782), clinically meaningful activity and an acceptable risk–benefit profile were observed in patients with advanced melanoma.

Methods: Two parallel, randomised, multicentre, Phase 2/3 studies are ongoing. In Study 1 (NCT05785767), investigators are evaluating fianlimab + cemiplimab versus cemiplimab monotherapy as first-line treatment in patients with advanced NSCLC and tumours expressing PD-L1 $\geq 50\%$. In Study 2 (NCT05800015), investigators are evaluating fianlimab + cemiplimab + platinum-doublet chemotherapy versus cemiplimab + chemotherapy in patients with advanced NSCLC regardless of PD-L1 expression. Eligibility criteria for both studies include: histologically confirmed squamous/non-squamous stage IIIB/C (not candidates for surgical resection or definitive chemoradiation) or stage IV NSCLC (no prior systemic treatment for recurrent/metastatic disease); ≥ 1 radiographically measurable lesion per RECIST v1.1; ECOG performance status ≤ 1 ; adequate organ and bone marrow function.

In the Phase 2 part of Study 1, patients will be randomised 1:1:1 (intravenously every 3 weeks [Q3W]) to receive: fianlimab high dose + cemiplimab 350 mg; fianlimab low dose + cemiplimab 350 mg; or cemiplimab 350 mg + placebo. In the Phase 2 part of Study 2, patients will be randomised 1:1:1 to receive (intravenously Q3W): fianlimab high dose + cemiplimab 350 mg + chemotherapy; fianlimab low dose + cemiplimab 350 mg + chemotherapy; or cemiplimab 350 mg + chemotherapy + placebo. In the Phase 3 part of both studies, patients will be randomised 1:1 into the fianlimab high/low dose group as determined during Phase 2 or the comparator group.

The primary endpoint for Phase 2 of both studies is objective response rate (ORR; BICR). In the Phase 3 part, the primary endpoint is overall survival (OS). Secondary endpoints for both studies include tolerability, safety, ORR (investigator assessment), DCR, TTR, DOR, PFS, OS (Phase 2), PROs, pharmacokinetics and immunogenicity.

Both studies are open for enrolment, along with a third Phase 2 study in which fianlimab + cemiplimab + chemotherapy will be evaluated as perioperative therapy in patients with stage II/III NSCLC (NCT06161441).

Editorial acknowledgement: Medical writing assistance was provided by Mirela Panea, DPhil, of Oberon, a division of OPEN Health Communications, and funded by Regeneron Pharmaceuticals, Inc., in accordance with Good Publication Practice (GPP) guidelines (www.ismpp.org/gpp-2022).

Trial registration: NCT05785767 and NCT05800015 (ClinicalTrials.gov)

Funding: This study is sponsored by Regeneron Pharmaceuticals, Inc.