1538P - Prognostic Impact of Leptin (LEP)-mediated Meta-inflammation (MI) in patients (pts) receiving maintenance Immunotherapy (IT) for Extensive-Stage Small Cell Lung Cancer (ES-SCLC)

Vita E [1,2], Stefani A [1,2], Piro G [1], Sparagna I [1,2], Monaca F [1,2], Di Salvatore MA [1], Ferrara MG [1,2], Barone D [1,2], D'Argento E [1], Carbone C [1], Tortora G [1,2], Bria E [1,2]

[1] Medical Oncology, Comprehensive Cancer Center, Fondazione Policlinico Universitario Agostino Gemelli – IRCCS, Rome, Italy
[2] Università Cattolica del Sacro Cuore, Rome, Italy

BACKGROUND

Immune-checkpoint inhibitors (IT) combined with platinum-based chemotherapy (CT) have become the new standard-of-care in the treatment of extensive-stage SCLC (ES-SCLC), however little is known about the small – but not negligible – subset of pts that obtains long-term benefits. Adipokines-induced metabolic dysfunctions and MI have been related to enhanced responsiveness to IT in obese pts; however, their prognostic role in SCLC is currently controversial.

METHODS

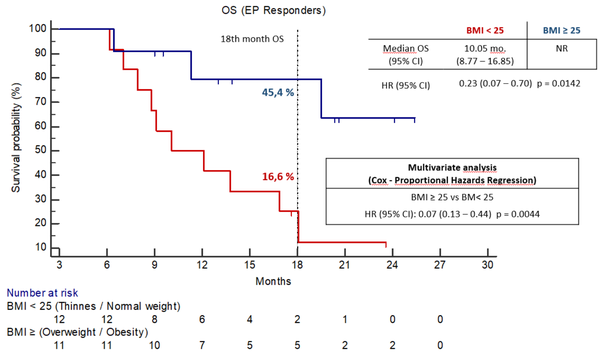
Pre-treatment blood samples of ES-SCLC pts candidate to CT-IT were collected at fasting for measuring blood sugar, insulin, ghrelin and adipokines (TNFα, IFNγ, IL-6, leptin, MCP-1). Pts with known history of DM type II or metabolic syndrome with HOMA index > 2.5, were considered insulin-resistant (IR). Overall survival (OS) and progression free survival (PFS) were analysed using the Kaplan Meier method. Multivariate analysis was performed to investigate patient, tumour, treatment related prognostic factors influencing clinical outcomes.

RESULTS

From November 2019 to May 2021, 34 pts were included. After a follow-up of at least 9 months, twenty-three pts had completed CT-IT induction and received maintenance IT; in this subgroup, at multivariate analysis, BMI ≥ 25 was a positive statistically significant prognostic factor for OS (HR 95% CI: 0.07 (0.13 – 0.449); p=0.0043). Thirteen pts were IR (IR pts), while ten did not have glycaemic disorders (NIR pts).

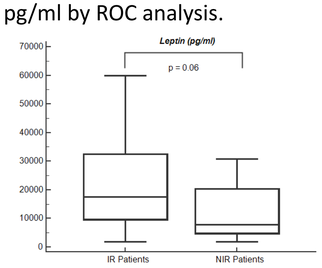
Table 1: Patients' characteristics (EP Responder cohort) n= 23 (%)

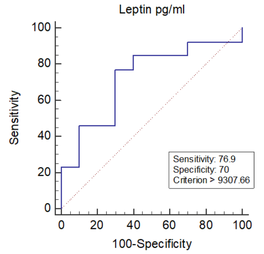
Age ≤ 65 yo/ > 65 yo	14/9 (61/39%)	**Smoking habits** Current/Former/Never Smoker	11/11/1 (48/48/4%)
Gender Male/Female	12/11 (52/48%)	**ECOG PS** PS ECOG 0/ PS ECOG 1-2	12/11 (48/52%)
BMI BMI < 25 (Thinness/Normal) BMI ≥ 25 (Overweight/ Obesity)	 12 (52%) 11 (48%)	**Insuline resistance status** DM type II / HOMA INDEX > 2.5 Normal glycemic parameters	 13 (56%) 10 (44%)
Disease extension Thoracic «bulky» disease Metastatic disease	 8 (41%) 15 (59%)	**Treatment regimens** Cisplatin/Carboplatin Atezolizumab/Durvalumab/Pembrolizumab	 18/5 (78/22%) 12/10/1 (52/43/5%)



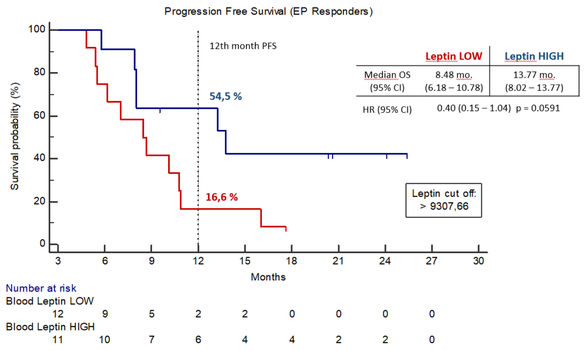
RESULTS

Among analysed adipokines, median LEP concentration was found to be significantly higher in IR pts compared to NIR pts (p=0.06). Based on IR-status, LEP cut-off value was 9307,66 pg/ml by ROC analysis.

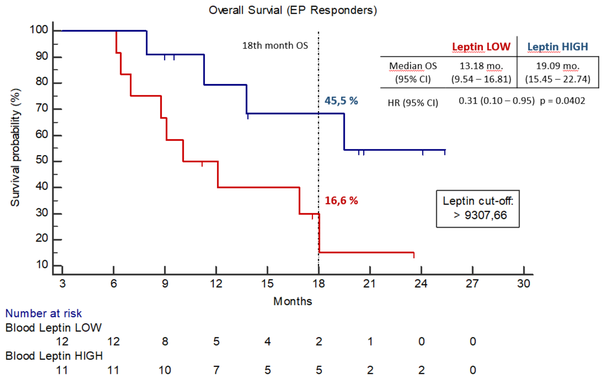




Kaplan Meier analysis showed that patients with higher LEP value had significantly longer PFS (13.77 vs 8.48 mo.; HR 0.40 (0.15 – 1.04) p=0.05) and OS (19.09 vs 13.08 mo.; HR 0.31 (0.10 – 0.95) p=0.04).



RESULTS



CONCLUSION

Overweight/obesity has the potential to be considered an independent prognostic factor in ES-SCLC pts who did not progressed after CT-IT, suggesting a possible favourable role of adipose-derived MI. The role of immune-metabolic disorders is currently investigated in a larger ES-SCLC pts cohort.

CONTACTS

Dr. Emanuele Vita: emanuele.vita@unicatt.it
Prof. Emilio Bria: emilio.bria@unicatt.it

Dr. Vita has no conflicts of interest to declare