TPS8125 **Poster Session**

Radiotherapy integration strategy for small-cell lung cancer in extensive stage (RISE) with up to 10 metastases: A study protocol of a randomized phase II trial.

Łukasz Kuncman, Jacek Fijuth, Damian Tworek, Ewa Sierko, Paweł Cisek, Michał Masłowski, Maja Lisik-Habib, Magdalena Orzechowska, Katarzyna Galwas-Kliber, Adam Antczak, Izabela Chmielewska, Barbara Ziółkowska, Marta Kurczewska-Michalak, Wojciech Kuźnicki, Nina Jędrzejczak, Kinga Ranoszek, Mateusz Bilski; Department of External Beam Radiotherapy, Copernicus Memorial Hospital in Lodz Comprehensive Cancer Center and Traumatology, Lodz, Poland; Department of Radiotherapy, Medical University of Lodz, Poland., Łódź, Poland; Department of General and Oncological Pulmonology, Medical University of Lodz, Łódź, Poland; Department of Oncology, Medical University of Bialystok, Białystok, Poland; Department of Radiotherapy, Medical University of Lublin, Lublin, Poland; Department of External Beam Radiotherapy, Copernicus Memorial Hospital in Lodz Comprehensive Cancer Center and Traumatology, Łódź, Poland; Department of Proliferative Diseases, Copernicus Memorial Hospital in Lodz Comprehensive Cancer Center and Traumatology, Lodz, Poland; Department of Molecular Carcinogenesis, Medical University of Łódź, Łódź, Poland; II Clinic of Radiotherapy & Chemotherapy, Maria Sklodowska-Curie National Research Institute of Oncology, Gliwice Branch, Gliwice, Poland; Department of General and Oncological Pulmonology, Łódź, Poland; Department of Pneumonology, Oncology and Allergology, Medical University of Lublin, Lublin, Poland; II Clinic of Radiotherapy and Chemotherapy, Maria Sklodowska-Curie National Research Institute of Oncology, Gliwice, Poland; Department of Clinical Oncology, Copernicus Memorial Hospital in Lodz Comprehensive Cancer Center and Traumatology, Łódź, Poland

Background: The standard of care (SoC) for patients with extensive-disease small-cell lung cancer (ED-SCLC) currently involves chemo-immunotherapy. Radiotherapy (RT) has proven effective as a chest consolidation therapy in ED-SCLC patients who respond to chemotherapy. However, there is limited evidence regarding the role of RT in both chest consolidation and metastasis-directed therapy for ED-SCLC patients undergoing chemo-immunotherapy. The RISE (Radiotherapy for Extensive-Stage Small-Cell Lung Cancer) study aims to evaluate the efficacy of various RT strategies targeting residual lesions in this patient population. **Methods:** A total of 165 patients with ED-SCLC will be recruited, with 55 patients assigned to each of the three study arms. Patients with stabilization or partial regression, according to the Response Evaluation Criteria in Solid Tumors (RECIST) version 1.1, during chemo-immunotherapy will be included. Arm I will serve as the control group, comprising patients who continue SoC of programmed death-ligand 1 (PD-L1)/programmed death-1 (PD-1) immunotherapy (durvalumab or atezolizumab) following platinum-based chemo-immunotherapy. Arm II will receive the SoC with consolidative RT to the chest area and potentially, according to palliative indications to metastatic lesions, delivered in 30 Gy in 3-Gy fractions. Arm III will receive SoC with RT of 45 Gy in 3-Gy fractions to the chest area and stereotactic body radiotherapy (SBRT) with 24 Gy in 8-Gy fractions to the metastatic lesions. Blood samples for circulating tumor DNA (ctDNA) will be collected before RT, during each week of treatment, and at the time of disease progression. The primary endpoint is progression-free survival (PFS) based on RECIST 1.1 or patient death. 1. Secondary endpoints are OS, treatment toxicity (frequency of G3 toxicity according to CTCAE v.5.0), area of progression (primary tumor localization/new lesions), Overall response rate (ORR), and the response rate in non-irradiated lesions. The study population of patients with ED-SCLC has a poor prognosis. Dose-escalated chest RT and SBRT (for up to 10 metastases) administered with modern techniques offer the possibility to improve OS and PFS. Trial registration: Clinicaltrials.gov NCT06529081 (Registered 26th Jul 2024). Clinical trial information: NCT06529081. Research Sponsor: Medical Research Agency; 2023/ABM/01/00040.