Correlation Between the Toxicity Grade of the Adverse Effects in the Course of the Immunotherapy of Lung Cancer and Efficiency of the Treatment in Anti-PD-L1 and Anti-PD-1 Drugs - Own Clinical Experience

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Abstract : Introduction: Immune checkpoint inhibition (ICI) belongs to the modern forms of anti-cancer treatment. Due to the constant development and continuous research in the field of ICI, many aspects of the treatment are yet to be discovered. One of the less researched aspects of ICI treatment is the influence of the adverse effects on the treatment success rate. It is suspected that adverse events in the course of the ICI treatment indicate a better response rate and correlate with longer progression-free- survival. Methodology: The research was conducted with the usage of the documentation of the Department of Clinical Oncology and Chemotherapy. Data of the patients with a lung cancer diagnosis who were treated between 2019-2022 and received ICI treatment were analyzed. Results: Out of over 133 patients whose data was analyzed, the vast majority were diagnosed with non-small cell lung cancer. The majority of the patients did not experience adverse effects. Most adverse effects reported were classified as grade 1 or grade 2 according to CTCAE classification. Most adverse effects involved skin, thyroid and liver toxicity. Statistical significance was found for the adverse effect incidence and overall survival (OS) and progression-free survival (PFS) (p=0,0263) and for the time of toxicity onset and OS and PFS (p<0,001). The number of toxicity sites was statistically significant for prolonged PFS (p=0.0315). The highest OS was noted in the group presenting grade 1 and grade 2 adverse effects. Conclusions: Obtained results confirm the existence of the prolonged OS and PFS in the adverse-effects-charged patients, mostly in the group presenting mild to intermediate (Grade 1 and Grade 2) adverse effects and late toxicity onset. Simultaneously our results suggest a correlation between treatment response rate and the toxicity grade of the adverse effects and the time of the toxicity onset. Similar results were obtained in several similar research conducted - with the proven tendency of better survival in mild and moderate toxicity; meanwhile, other studies in the area suggested an advantage in patients with any toxicity regardless of the grade. The contradictory results strongly suggest the need for further research on this topic, with a focus on additional factors influencing the course of the treatment.

Keywords : adverse effects, immunotherapy, lung cancer, PD-1/PD-L1 inhibitors
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