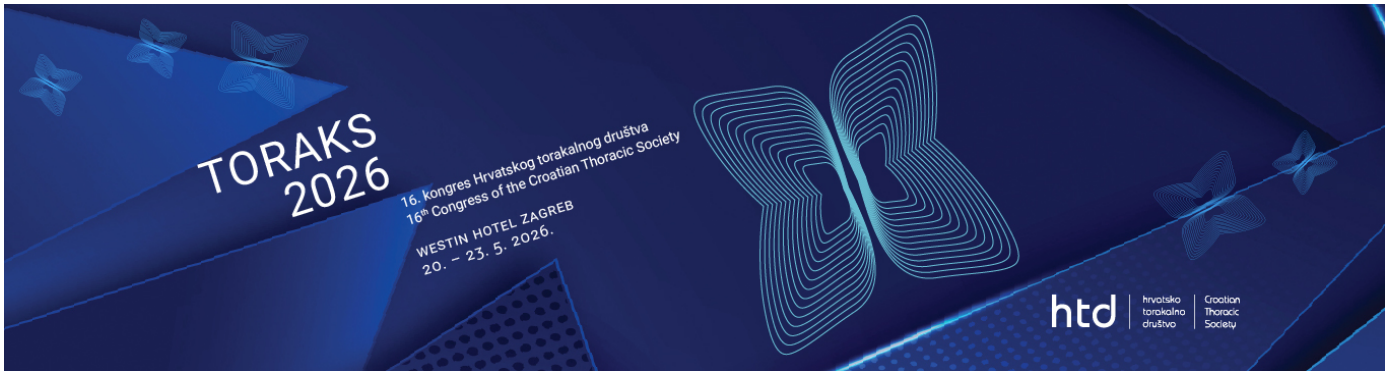


IMMUNOTHERAPY RE-CHALLENGE IN THE TREATMENT OF NON-SMALL CELL LUNG CANCER

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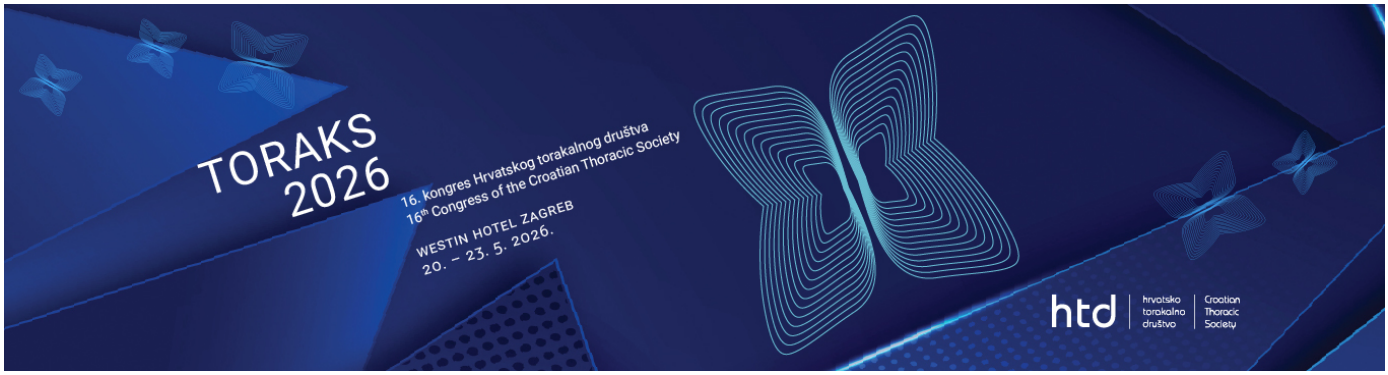
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Background:

Lung cancer is one of the most common malignant tumors worldwide and the leading cause of cancer-related mortality. The use of immunotherapy has fundamentally changed the treatment approach and improved prognosis; however, in some patients, disease progression occurs during or after therapy. In such situations, therapeutic options are limited, which is



why immunotherapy re-challenge is increasingly being considered.

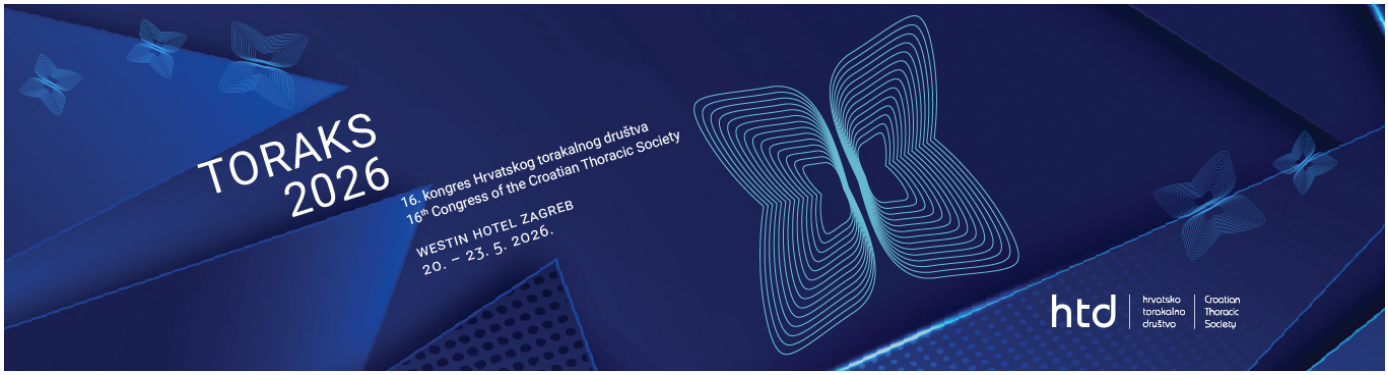
Conclusion:

Although current guidelines do not yet recommend routine re-administration of immunotherapy after progression, there is increasing evidence from retrospective studies suggesting that selected groups of patients may derive significant benefit. Further prospective studies are needed to precisely define the patient populations that benefit most from this approach, as well as the optimal therapeutic protocols.

Case:

We present a case of a 72-year-old patient with squamous cell carcinoma of the right lower lung lobe with metastases to mediastinal lymph nodes and lungs (stage IV) and high PD-L1 expression (70 %). Patient received first-line treatment with pembrolizumab monotherapy for 19 months (a total of 24 cycles), with a good radiological response (reduction of the primary tumor and metastases) and tolerable side effects such as rash and pruritus, which regressed with symptomatic therapy.

Subsequently, disease progression occurred in the right main bronchus with resulting atelectasis of the middle and lower lobes. Complete endoscopic recanalization was performed, and systemic treatment with second-line chemotherapy (gemcitabine and cisplatin protocol) was indicated. After the first cycle, the patient developed moderate transient thrombocytopenia, and due to worsening renal function, cisplatin was replaced with carboplatin. A total of 5 cycles of chemotherapy were administered, after which significant tumor reduction was observed, followed by stable disease on later follow-up.



Fifteen months after completion of chemotherapy, progression in the size and metabolic activity of a lymph node in the right hilum was detected with PET-CT. Stereotactic ablative radiotherapy was performed, with good local control observed during follow-up. Nineteen months after the procedure, progression in size of subcarinal lymph nodes and bilateral renal metastases were detected and confirmed by biopsy (PD-L1 expression of 90 %). Immunotherapy re-challenge with pembrolizumab was started and the patient has so far received a total of 23 cycles. The therapy has been generally well tolerated, with the occurrence of rash and arthritis, and a temporary interruption due to endovascular procedure. Follow-up during 2 years of treatment showed stable disease, until the most recent MSCT revealed disease progression and pneumonitis.