CASE OF THE PATIENT WITH ADVANCED NON-SMALL-CELL LUNG CANCER TREATED WITH PRALSETINIB IN THE SEVENTH LINE SETTING

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Objective:

Introduction: Recently, great advances in the treatment of non-small-cell lung cancer (NSCLC) have been made. One of the novel targeted therapies is pralsetinib, RET inhibitor.

Methods: We monitored one of the patients with positive RET fusion for disease progression and side-effects during therapy with pralsetinib, in the standard oral dose of 400 mg once daily.

Results: The male patient was diagnosed with non-small-cell lung cancer, adenocarcinoma, in 2014 at the age of 62. He was ex-smoker, with pack/years 40 and there were no significant co-morbidities. Initial stage of the disease was T2N0M0 so he underwent right lower lobectomy and mediastinal lymphadectomy. There was one positive hilar lymph node postoperatively so the patient received 4 cycles of adiuvant chemotherapy (etopposide nad cispatin). In August 2015 locally recurrence of adenocarcinoma was diagnosed and the patient underwent surgery again with middle lobe resection and mediastinal lymphadenectomy. He was given 4 cycles of adiuvant chemotherapy (paclitaxel and carboplatin). In December 2016 the PET CT scan showed advanced disease with metastases in both lungs. The patient started with immune check-point inhibitor nivolumab. After 4 months of the therapy, clinical and radiological disease progression was verified, and the patient started with pemetrexed monotherapy due to worsening of performance status. After only 3 cycles the patient performance status improved and radiological evaluation showed partial response so the therapy was continued for 20 months. It was discontinued because of the peripheral neuropathy. Because of the disease progression new chemotherapy line with docetaxel started in May 2020. The patient progressed in July 2021. We decided to do re-biopsy of the lung infiltrates. Patohistology report revealed lung adenocarcinoma, ALK, EGFR nad ROS1 were negative and PD-L1 1%. On the sample next generation sequencing (FMI Roche) was done. In the meantime the patient, who was still in great clinical state, ECOG PS 0, started with gemcitabine monotherapy in the sixth line treatment. FMI revealed that the tumor expresses RET-fusion so we started pralsetinib in November 2020. Radiological partial response was observed in January 2022 and the therapy is ongoing without any observed side-effects except worsening of pre-existing arterial hypertension.

Conclusion: Novel advances in the diagnostics and treament of NSCLC give our patients great clinical benefits. We here presented the patients who is a long-term survivor and is still a candidate for targeted therapy regrdless of many previous chemoterapy and check-point inhibitor lines.