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PROLONGED DISEASE CONTROL WITH NIVOLUMAB IN METASTATIC LUNG ADENOCARCINOMA DURING IMMUNOTHERAPY ERA

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Introduction - Purpose : Currently, the options are limited for the treatment of patients who have failed 2 lines of chemotherapy for advanced non-small cell lung cancer (NSCLC). Nivolumab causing T cell activation and T cell infiltration to tumor tissue through the blockade of the interaction between programmed cell death 1 (PD-1) and programmed cell death ligand 1 (PD-L1) has been recently clinically applied to non-small cell lung cancer (NSCLC) treatment.

Findings : A 52-year-old male, who had no health problem was admitted with 6 month back pain and enlarged right supraclavicular lymph node in June 2015. He had 30-year history of smoking and no alcohol-drinking. A biopsy of the supraclavicular lymph node revealed metastatic lung adenocarcinoma. An EGFR mutation was positive for de novo T790M, and ALK rearrangement was negative. A full-body positron emission tomography–computed tomography (PET-CT) revealed a hypermetabolic right lung hilar mass and hypermetabolic right supraclavicular and mediastinal lymphadenopathy, right pleural effusion and osteolytic bone lesion at the T11 vertebral body. His CEA level was 2314 ng/ml, CRP 185 mg/dl (0-5 mg/dl) and albümin 2,8 g/dl. He was diagnosed with a stage IV disease and received chemotherapy with pemetrexed and cisplatin. SBRT was applied to T11 lytic bone lesion. A computed tomography (CT) scan of the neck and chest after 4 cycles of chemotherapy revealed a stable disease (SD). But, CEA level was 3135 ng/ml, CRP 160 mg/dl. We decided to administer nivolumab (3 mg/kg) every 2 weeks as a second-line chemotherapy with Nivolumab early access program in November 2015. After the first cycle, his back pain, dyspnea and fatigue were recovered. CRP and CEA levels were regressed to 69 mg/dl and 635 ng/ml, respectively. After the 6th cycle CEA level was 68 ng/ml and there significant regression at the mass esion and metastatic lymph nodes in the CT. Interestingly, despite taking Nivolumab every two weeks, patient's CRP and CEA levels had always been around 80 mg/dl and 70 ng/ml respectively. Also, there were always stable responses in images taken three months apart. After 17 months from the onset of Nivolumab, the patient's back pain, dyspnea and fatigue developed again and CEA and CRP levels were progressed to 110 ng/ml and 120 mg/dl respectively. Recurrent pleural effusion, mass and 25% progression in metastatic LAPs and new metastatic lesions were seen in thorax CT. Nivolumab was terminated, the patient had a very rapid clinical deterioration and the patient died in a short time.

Discussion : Immunotherapy is quickly incorporated into our oncology practice and is being prepared to change treatment options for many cancers. Nivolumab is effective and easy to tolerate and provides a good long-term stable partial response in our patient.

Keywords: Nivolumab, Non smal cell lung cancer, stable response