

AUTOIMMUNE MYOPATHY RESULTING FROM A THERAPY WITH NIVOLUMAB FOR METASTATIC NON-SMALL CELL LUNG CANCER: A CASE REPORT

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1. Background

Immune checkpoint inhibitors (ICI), such as the anti-PD1 monoclonal antibody Nivolumab, have proven efficacy as first or second-line therapies in several tumors. Specific immune-related adverse effects (IRAE) involving various organs have been reported and are considered to be caused by immune over activation. IRAE involving the nervous system or muscle are rare and some of which are serious and may have fatal outcomes if they aren't monitored.

2. Objective

We report a case of autoimmune myopathy following treatment with nivolumab for metastatic non-small-cell lung cancer.

3. Material and Methods

Descriptive and retrospective clinical case. Data were obtained by review of the electronic medical records. The causality of the adverse reaction was established using the Karch-Lasagna algorithm.

4. Results



A 70-year-old man was followed by the oncology service for a stage-IV lung adenocarcinoma. He received treatment with carboplatin AUC-5/pemetrexed 500mg/m², January-May 2017. After, he went on with pemetrexed as maintenance for 12 cycles. Disease progression was determined by imaging tests. February 2018, nivolumab was started as second-line treatment with laboratory parameters in the normal range and was well tolerated at the first. After cycle-10, the patient started suffering from right knee swelling which decreased after local dexamethasone infiltration. After, he suffered from pain legs (cycle-14), and later there was weakness present with a sustained effort in these muscle groups. After cycle-18, the treatment was interrupted and blood test ordered. Blood analysis showed increased level of creatine-kinase (CK) (1950U/L, N<200), C Reactive-Protein 52.9mg/ml (0-5.0) and normal level of Anti-cyclic citrullinated peptide 9.9U/ml (0-20). The patient received intravenous methylprednisolone 1g for two days, leading to improved CK levels and disappearing the pain. He started docetaxel 75mg/m² without suffering from myopathy again. The Karch-Lasagna algorithm established a 'possible' relationship between myopathy and nivolumab treatment due to the existence of a temporal correlation between the facts.

5. Conclusion

Health professionals must be vigilant in identifying drug related adverse reactions, particularly those related to drugs on the European list of medicinal products under additional monitoring. Myopathy has been reported in patients receiving nivolumab, and consequently patients should be monitored for changes in muscle function, and other causes of dysfunction should be excluded.