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## ECONOMIC IMPACT OF WEIGHT-BASED VS. FIXED-DOSE NIVOLUMAB DOSING IN A SPECIALTY HOSPITAL

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### BACKGROUND AND IMPORTANCE

Nivolumab was the first anti-PD-1 drug to be marketed, marking a significant advancement initially in the treatment of melanoma and non-small cell lung cancer. Since then, anti-PD-1 therapies have revolutionized cancer treatment. The hospital use of nivolumab continues to increase, and optimizing dosing strategies to reduce costs while maintaining efficacy can play an important role in supporting the sustainability of the healthcare system.

### AIM AND OBJECTIVES

To evaluate the economic impact, measured in direct costs, of using reduced-dose nivolumab for the treatment of various cancer types.

### MATERIAL AND METHODS

A descriptive observational study was conducted, including 160 patients diagnosed with different types of cancer. These patients were administered nivolumab at a dose of 3 mg/kg instead of the fixed 240 mg dose specified in the drug's summary of product characteristics. All patients prescribed reduced-dose nivolumab were included, regardless of the number of cycles received.

### RESULTS

Weight-based dosing of nivolumab during the study period resulted in a total direct cost saving of €345,826. Per-patient savings ranged from €39 to €16,551. By cancer type, patients treated with nivolumab at 3 mg/kg included: 13 with head and neck cancer, 4 with esophageal cancer, 10 with gastric cancer, 39 with melanoma, 45 with non-small cell lung cancer, 41 with renal cancer, 7 with urothelial bladder cancer, and 1 with Hodgkin lymphoma. Reduced-dose nivolumab was prescribed in 100% of the cases during the study period. No reduction in treatment efficacy was observed in patients receiving nivolumab at 3 mg/kg.

### CONCLUSION AND RELEVANCE

Administering nivolumab at 3 mg/kg represents an efficient dosing strategy, resulting in substantial cost savings without compromising patient outcomes. This has significant implications for the sustainability of the healthcare system, particularly in oncology, where therapeutic innovation is rapidly evolving.