

PHARMACOECONOMIC ANALYSIS OF THE PEMBROLIZUMAB DOSING REGIMEN BY BODY WEIGHT: A MULTICENTRE STUDY IN REAL-LIFE

C. MORENO RAMOS, R. CASTILLEJO-GARCIA, F.A. LAO-DOMINGUEZ
SERVICIO EXTREMEÑO DE SALUD, SERVICIOS CENTRALES. SUBDIRECCIÓN DE FARMACIA. MÉRIDA-BADAJOS, SPAIN.

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Background and importance

Dose-response trials initially supported a weight-based dose of 2mg/kg of pembrolizumab, however a fixed dose of 200mg was subsequently established. The pharmacokinetic and pharmacodynamic characteristics of fixed doses and doses based on body weight are similar. Various organizations such as the Canadian Agency for Drugs and Technologies in Health and the National Health Service in England have recommended dosing pembrolizumab by weight.

Aim and objectives

To assess the economic impact of implementing a weight-based dosing protocol for pembrolizumab in our region, in comparison with the standard fixed-dose regimen.

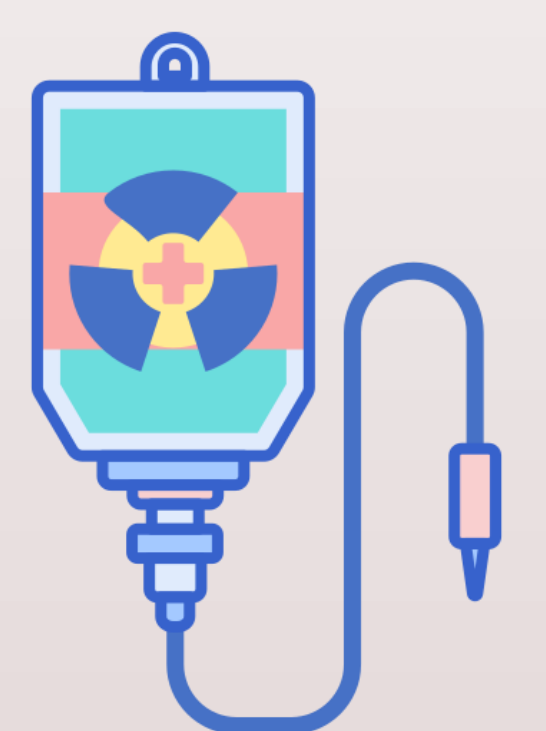
Material and methods

- A multicentric and retrospective study was carried out from September 2024 to July 2025.
- Variables collected: age, sex, weight, administered cycles and proportion of patients treated with weight-based dosing.
- All patients were undergoing treatment with pembrolizumab for an authorized indication.
- Cost of cycle using a fixed-dose regimen and without weight-based adjustment were determined.
- To estimate the economic impact, we compared the real cost of weight-adjusted pembrolizumab dosing, administered since protocol implementation (September 2024), with the projected cost of fixed dosing for the same patient cohort.

Results

- ❖ 295 patients were included
- ❖ Median age 66 (34-93) years.
- ❖ 46.8% ♀ and 53.2% ♂.
- ❖ Weight was 77 (40-118) kg.
- ❖ Cycles received was 5 (1-14).
- ❖ Patients on weight-adjusted dosing → 65.8%.

Administering a weight-adjusted treatment cycle results in a 23% reduction in cost



The introduction of the weight-based dosage has led to a 9.4% reduction in expenditure

397,000.2 euros in our region



Conclusion and relevance

- Since the introduction of the protocol, weight-based dosing has been chosen in more than half of the patients treated with pembrolizumab. This strategy could be considered an efficient cost-reduction measure that contributes to the sustainability of healthcare system.

