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P136 Nivolumab & Pembrolizumab: the economic impact of a fixed-dose strategy

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Abstract - Introduction
In recent years, the immunotherapy targeting PD-1/PDL-1 has covered more and more indications while the number of patients keeps increasing. In 2018, the switch from a weight-adjusted dose to a fixed-dose strategy for Nivolumab and Pembrolizumab has been approved.The fixed dose of Nivolumab (240 mg) corresponds to a patient of 80 kg under a weight-adjusted strategy (3 mg/kg) while the fixed dose of Pembrolizumab (200 mg) corresponds to a patient of 100 kg under a weight-adjusted strategy (2 mg/kg). We study the economic impact of the dosage strategy modification in a cytotoxic production unit.

Abstract - Material and method
We performed a retrospectic study including all the patients treated with Nivolumab or Pembrolizumab from January 2020 to December 2020.
For each patient, the number of cycle of chemotherapy and the average weight were taken into account. These data allowed us to calculate the theoretical cost, for each patient, of a weight-adjusted dose strategy.
Then, a cost comparison between the fixed-dose and the weight-adjusted dose strategy was realized.

Abstract - Results and discussion
The study cohort included 89 patients under Pembrolizumab and 53 patients under Nivolumab.
For the patients treated with Pembrolizumab, the average number of chemotherapy cycle is 4.1 [1-16] with an average weight of 73.1 kgs [42-126]. The additional cost of the fixed-dose strategy is estimated at 597,612 € (representing an increase of 27 %).
For the patients treated with Nivolumab, the average number of chemotherapy cycle is 8.71 [1-24] with an average weight of 71.5 kgs [43-113]. The additional cost of the fixed-dose strategy is estimated at 126,811 € (representing an increase of 11%).
The switch of dose strategy for these two immunotherapies costed an overall of 724.423 € in 2020.

Abstract - Conclusion
In France, since 2018, the fixed-dose strategy is recommanded for both Pembrolizumab and Nivolumab. Studies didn't demonstrate a significative difference on efficacy and tolerance between the two strategies. However, there is a huge economic cost for the society, link to a significant difference between the weight of our patients and the theoretical weight used to calculate the fixed-dose.

P137 Effectiveness and cost-effectiveness of durvalumab after chemo-radiotherapy in non-small cell lung cancer

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Abstract - Introduction
Durvalumab (DMab) is indicated in adults for the treatment of lung cancer, unresectable, locally advanced small cell disease (nSCLC), whose tumors express PD-L1≥1% and whose disease has not progressed after chemoradiotherapy (CRT) platinum based. It is important to know the effectiveness and cost of the treatment and to answer if its introduction in therapy achieves the expected health outcomes.
To evaluate the effectiveness and treatment cost of DMab in nSCLC, according to the conditions of use indicated in the data sheet, real word data. A Kaplan-Meier analysis is performed for PFS, TD an

Abstract - Material and method
A retrospective observational study is designed, which includes all patients (pts) treated with DMab from March 2018 to February 2022 for nSCLC after CRT, in a reference hospital in oncology that covers a population of 600,000 inhabitants in South of Spain.
The main variable is progression-free survival (PFS), other variables are treatment duration (TD), overall survival (OS), treatment cost (TC) and demographic data of pts. A Kaplan-Meier analysis is performed for PFS, TD and OS and frequency analysis, or with measures of central tendency and dispersion for the rest.

Abstract - Results and discussion
Twenty-two pts (95.5% male) were included. The mean age was 65.4 years (σ=5.5). All pts were smokers at diagnosis. The histology was squamous in 14 pts (63.6%), no squamous 7 pts (31.8%) and NOS 1 pts (4.6%). The median follow-up of pts was 20 m. The median TD was 6.2 m (95% CI: 2.2-10.2). Only 4 pts completed 12 m of treatment established in the DMab data sheet, 3 continue in treatment at date cutoff. The median PFS was 18.7 m (95% CI: 8.9-28.6). The median of OS could not be calculated as it did not reach the number of events after the follow-up time, the mean assuming normal distribution was 32.8 m (95% CI: 25.2-40.6).
The total cost of DMab at the date cut-off was 466,300€ and the mean TC with Dmab/pts was 21,195€ (σ= 15,494). The OS benefit in the study population was 125,5 m, which implies a cost per year of survival gained of 44,592€ (95% CI: 30,074€-107,765€).

Abstract - Conclusion
The effectiveness of DMab reached the efficacy values of the pacific trial. The cost per year of survival achieved is between the values of willingness to pay, although there is a slight uncertainty for the maximum value.

P138 Influence of a durvalumab use protocol based on patient weight on treatment costs

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Abstract - Introduction
Durvalumab (DMab) is indicated in adults for the treatment of non-small cell lung cancer (nSCLC) after chemoradiotherapy (CRT). The EMA approved the dose of 10 mg/kg and later also the flag dose of 750 mg every 14 days. We implement a protocol for the use of DMab based on dose/kg with a limit of 750 mg for patient (pt)>75kg. Financing is carried out through a use limit agreement based on the weight of pt.
To analyze the influence of a protocol of use, the flag dose and dose by weight in treatment costs and assess the impact on the financing agreement of the new dose regimen.

Abstract - Material and method
We designed a utilization study of cost for the real population treated with DMab in our hospital from February 2018.
According to the financing and reimbursement agreement: in pts <74 kg, the laboratory would responsible for the cost of cycles 21 to 26 of treatment and in any case of the cost from 14,800 mg accumulated dose DMab.
The main variable is real total cost (RTC) of treatment and modeled total cost at protocol (PTC), at dose/kg (KTC) and flag dose (FTC). Other variables are weight, mg DMab and number of doses administered. We calculate the differences in cost/treatment.

Abstract - Results and discussion
Twenty-two pts were included. The mean weight per patient was 73.2kg (ds=17.8). The median number of doses administered was 11.5 (range:1-27) and the mean of 9,215mg of DMab (ds=6,736) per pt.
The RTC was 466,300€ for all pts. The modeled PTC, KTC and FTC were 452,893€, 429,364€ and 486,450€, respectively. The RTC was greater than the KTC because flag doses were prescribed before the start of the established protocol for patients< 75kg. The estimated saving in our population with the use protocol would have been 8%, if it had been applied to all pts.
Considering the financing agreement, the PTC, KTC and FTC would 389,459€, 398,498€ and 438,380€, respectively. In relation to the RTC, the cost for the hospital would 16% lower using the established protocol for DMab.

Abstract - Conclusion
The implementation of a protocol for the use of DMab represents significant economic savings for the hospital, even considering the financing and reimbursement agreement with the marketing laboratory.

P139 A comparison between cost perception of anticancer treatment by patients under chemotherapy and those under targeted therapy or immunotherapy in Tunisian cancer patients at Salah Azaiez institute

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Abstract - Introduction
The incidence of cancer in Tunisia is increasing every year and its economic impact is considerable. The health insurance that patients currently benefit from in Tunisia covers a large part of cancer treatments expenses. This study aimed to evaluate the estimation of treatments cost in patients under chemotherapy and those under targeted therapy and immunotherapy.

Abstract - Material and method
This is a prospective and descriptive study carried out in the Salah Azaiez institute from December 2021 to March 2022. A questionnaire was administrated to patients that took place during the chemotherapy session and lasted an average of 15 min. The answers to the questions were collected from each patient.

Abstract - Results and discussion
72.8% of patients were women with a sex ratio=2.7. The most represented age group (50.4%) was [40-60]years. The most represented age group (50.4%) was [40-60] years. The majority of patients had breast cancer (44.7%) followed by colorectal (25.6%). 71.5% of patients were treated with chemotherapy and 28.5% of patients were treated with targeted therapy or immunotherapy. More patients treated with targeted therapy or immunotherapy (41.4%) knew the designation of their treatments compared to patients treated with chemotherapy (11.9%). Cost conversations with physicians occurred in 43.3% of patients under targeted therapy or immunotherapy and only in 23.3% of patients under chemotherapy. Most patients treated with targeted therapy or immunotherapy (62.9%) perceived their treatments cost as very expensive and most of the patients treated with chemotherapy (58%) perceived the cost of their treatment as moderately expensive. 54.3% of patients treated with targeted therapy or immunotherapy ha

Abstract - Conclusion
All treatments costs are almost completely covered by the health insurance therefore, cost estimation is highly misestimated. This improper estimation could lead to a poor adherence to anticancer treatments. For this reason, health care providers have an important role in remedying this issue by cost conversations.

P140 ECONOMIC IMPACT OF FIXED-DOSE NIVOLUMAB AND PEMBROLIZUMAB IN A ONCOLOGY INSTITUTION

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Abstract - Introduction
Pembrolizumab (P) and Nivolimab (N) are highly selective anti-PD-1. The original trials determined that the dose calculation is based on the patient's weight, personalized dose (PD) (2 mg/kg 3w for P and 3 mg/kg 2w for N). In 2018, the EMA approved the Fixed Dose (FD) of 200mg for P and 240mg for N. Studies suggest that PD and FD are associated with similar levels of efficacy. [1] Recent publications refer to a financial increase using the FD. [2]. The objective of the study is to verify the economic impact of FD vs PD in our population and analyze the introduction of the Dose Banding (DB).

Abstract - Material and method
Between march and december (10 months), we included patients being treated with P and N. We collect data (date, weight, diagnosis and performed cycles) from the software. We calculate the number of milligrams (mg) used in PD, DB and DF and we compared the economic impact of the 3 strategies. We used the National Dose Banding Table from NHS England. We prepare P (50 mg/vial) and N (100 mg and 40 mg/vial) in a centralized cytotoxic preparation unit that meets GMP standards. Complete use of the vials was achieved, with an average of 3 patients/day of P and N.

Abstract - Results and discussion
We included 82 P patients (56 men, 26 women) with a mean weight of 71.3 kg; 51.2% diagnosed with melanoma and 48.8% C. of the lung. 558 DP preparations were made, totaling 109565 mg. Simulating the FD 150600 mg would be prescribed, which represents an increase in expense of +37.5%, for DB 106 740 would be prescribed mg, a decrease in expenditure of -2.6%. In N, 40 patients were included (27 men, 13 women), mean weight of 71.2 kg, main diagnosis was lung cancer 85%, followed by melanoma 15%. 640 PD preparations were performed in a total of 137200 mg. Extrapolating to the FD, 152 640 mg would be prescribed, which represents an increase in the expense of +11.3%, in DB, would be prescribed 131 680 mg which represents a decrease in expenditure of -4%.

Abstract - Conclusion
Using data from our Institution, we found evidence that the FD regime results in an increase in costs in relation to PD. We also verified that the introduction of the DB approach can be potentially beneficial in the reduction of economic and organizational costs, while maintaining clinical results.