special attention during ICI treatment. This case report suggests a direct relationship between immunotherapy and disorder coagulation events; however, this cannot always be demonstrated but the diagnosis was made by exclusion. Therefore, extensive research in relation to haematological IrAEs and ICIs are necessary.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

5PSQ-151 SEVERE TOXICITY IN A PATIENT WITH ACUTE LYMPHOBLASTIC LEUKAEMIA RESULTING FROM SUBSTITUTION OF DAUNORUBICIN WITH DOXORUBICIN DUE TO MEDICINE SHORTAGE: A CASE REPORT

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Background and importance We present the case of a young patient with T lymphoblastic lymphoma (T-LBL) who developed severe toxicity after receiving an anthracycline based protocol that is generally well tolerated by healthy patients. We assume that the substitution of daunorubicin by doxorubicin due to a nationwide shortage of daunorubicin played a crucial role in developing severe toxicity.

Aim and objectives The 19-year-old man with no previous illnesses was diagnosed in December 2019 with T-LBL, a rare, aggressive neoplasm of precursor T cells that progresses rapidly and requires prompt diagnosis and medical intervention. T-LBL shows morphological and immunophenotypical similarities to acute lymphoblastic leukaemia (ALL). T-LBL treatment is the same as for ALL.

Material and methods The induction protocol consisted of dexamethasone, vincristine, daunorubicin and pegasparginase. Due to a nationwide shortage, daunorubicin (30 mg/m²) was substituted by doxorubicin (25 mg/m²).

Results Chemotherapy was initially well tolerated, but beginning on day 15, the patient developed pronounced mucositis and increased skin toxicity (hand-foot syndrome, grade IV). Moreover, coagulation parameters deteriorated, and repeated transfusions with erythrocytes and platelet concentrates were needed. After administration of pegasparginase on day 31, liver values increased, and finally, the patient had to be transferred to the intensive care unit due to fulminant pancreatitis. After 3 days, the patient could be transferred back to our ward. However, within 2 weeks, the patient developed sensory disturbances in all extremities, which was classified as chemotherapy associated polyneuropathy.

In the further clinical course, the patient's general condition improved, and PET-CT showed complete metabolic remission. Due to the severe chemotherapy associated side effects, intensive consolidation treatment, according to the protocol, was cancelled. Instead, a consolidating therapy with nelarabine was carried out without complications. To date (October 2020), the patient is in a good clinical condition and has not developed disease recurrence. Probability assessment using the Nar-anjo algorithm resulted in 'probable adverse drug reaction' (score=6).

Conclusion and relevance Our case report underlines the fact that shortages of essential anticancer drugs can have a particular impact on the efficacy and safety of established chemotherapy regimens, as these medicines often have few or no proven effective alternatives.

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Conflict of interest No conflict of interest

5PSQ-152 REAL WORLD EFFICACY AND COST DATA ON PATIENTS WITH METASTATIC NON-SMALL CELL LUNG CANCER TREATED WITH CHECKPOINT INHIBITORS IN AN ITALIAN UNIVERSITY HOSPITAL IN SEPTEMBER 2016–2020

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Background and importance Non-small cell lung carcinoma (NSCLC) accounts for 85–90% of all forms of lung cancer. In recent years, the development of immune checkpoint inhibitors has completely changed the therapeutic landscape of NSCLC and changed treatment standards. Immuno-oncology is a promising therapeutic option based on the use of synthetic antibodies, such as nivolumab and pembrolizumab which can both improve the survival of patients. All this represents a valid new approach, but the high cost requires a specific evaluation of health outcomes.

Aim and objectives The main aim of this retrospective observational study was to analyse the characteristics of NSCLC patients, treatment outcomes and costs of treatment of advanced stage NSCLC with nivolumab and pembrolizumab in an Italian teaching hospital in a cohort of 102 selected patients.

Material and methods A retrospective observational analysis was conducted in patients treated with immune checkpoint inhibitors from September 2016 to September 2020 at the university hospital 'Mater Domini' in Catanzaro, Italy. Data sources were medical records, internal prescription cards and reports of adverse reactions.

Results 102 patients (89.2% men) were diagnosed with advanced NSCLC, 69.6% characterised by a non-squamous histology and 30.4% squamous. Firstline treatment with pembrolizumab was administered to 53 patients for an average of 11.5 months, 9 of whom were receiving innovative treatment with pembrolizumab+pemetrexed as firstline treatment with an average annual patient cost of 4915.78€, while 49 patients were treated with nivolumab for an average of 16.5 months with an average annual patient cost of 11 306.08€. The data showed a survival rate of 64.8% after 12 months, 57.9% after 24 months and 48.1% after 36 months. Most patients received immunotherapy as firstline and the others as subsequent treatment.

Conclusion and relevance Currently, there are numerous clinical studies for NSCLC but no study has compared immunotherapy treatments. From this study, based on real world data,

it emerged that the impact on budget was greater for nivolumab which had a higher survival value than pembrolizumab. This analysis was a first step in assessing the impact of introducing a significant new class of treatments, immunotherapy, comparing two drugs that have totally changed the prognosis of NSCLC patients.

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5PSQ-153

CARBOPLATIN AUC DOSING IN PAEDIATRIC PATIENTS: INFLUENCE OF GLOMERULAR FILTRATION RATE MEASUREMENT

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Background and importance In paediatrics, some carboplatin dosage methods are based on renal clearance. An accurate determination of the glomerular filtration rate (GFR) can be obtained by measuring 51Cr-EDTA clearance but this method is laborious and difficult, especially in children. Hence various formulae have been developed to calculate and estimate GFR.

Aim and objectives The aim of this study was to compare carboplatin doses calculated by the modified Calvert formula with GFR measured by 51Cr-EDTA clearance and GFR estimated with the Schwartz formula in children.

Material and methods All paediatric cancer patients whose GFR was measured by 51Cr-EDTA were included. GFR was also estimated with the Schwartz formula. Demographics of the patients included in the study were collected. To calculate carboplatin dose, the modified Calvert formula was used: dose (mg/m²) = target AUC × (raw GFR (mL/min) + 15 × body surface area (BSA) (m²)). The target AUC chosen was 5 mg/mL/min. Carboplatin doses were calculated with two different values of GFR calculated previously. To test normality, the Kolmogorov–Smirnov test was used. The Student's t test for paired samples was applied to compare carboplatin mean doses.

Results 33 patients were identified with a median age of 10 years (range 1–17), 63.63% were male. Median weight, height and BSA were 28 kg (range 8–84.4 kg), 137 cm (range 64–182 cm) and 1.04 m² (range 0.37–2.06 m²), respectively. The mean carboplatin dose calculated with GFR measured by 51Cr-EDTA was 274.28±135.74 mg and with GFR estimated with the Schwartz formula, 364.86±156.59 mg. The mean difference between the two dosing methods was 90.58 mg (p<0.001).

Conclusion and relevance Carboplatin doses calculated with GFR estimated by the Schwartz formula were statistically higher than those measured by 51Cr-EDTA. This variability may be a risk factor leading to inadequate dosing of patients treated with carboplatin. GFR measured with 51Cr-EDTA is considered the gold standard. Therefore, it should be implemented in all centres where carboplatin is given to paediatric patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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5PSQ-154

DETERMINATION OF GENETIC POLYMORPHISMS OF THE DIHYDROPYRIMIDINE DEHYDROGENASE GENE IN REAL CLINICAL PRACTICE AS PREDICTORS OF SEVERE FLUOROPYRIMIDINE ASSOCIATED TOXICITY

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Background and importance Fluoropyrimidines are antineoplastic drugs used for the treatment of many types of solid tumours. Approximately 80–90% administered is metabolised by the enzyme dihydropyrimidine dehydrogenase (DPYD). Partial or total deficiency of this enzyme is related to severe toxicity and in some cases it can cause the death of the patient.

Aim and objectives The aim of our study was to determine the frequency of these polymorphisms in the DPYD gene in patients treated in our hospital, and to identify those patients with a predisposition to excessive toxicity if they are exposed to fluoropyrimidines.

Material and methods Genetic analysis of the DPYD gene was performed on all patients who started treatment with fluoropyrimidines between September 2017 and April 2020. The variables collected were: age, type of tumour diagnosed and toxicity presented in the first six treatment cycles according to the common terminology criteria for adverse events (CTCAE) classification. Data were obtained from the electronic medical records (Diraya) and the electronic prescription programme (Farmis). The polymorphisms studied were rs3918290, rs55886062, rs67376798 and rs56038477.

Results Genetic analysis was performed on 171 patients. Median age was 71 years. Most of the diagnoses corresponded to colorectal cancer (81%). Patients presented the following adverse events: digestive toxicity in 59% of patients (CTCAE: 1, 2, 3), mucositis 20% (CTCAE: 1, 2), haematological toxicity 17% (CTCAE: 2), hepatotoxicity 6% (CTCAE: 2, 3), neuropathy 16% (CTCAE: 1, 2) and erythrocytosis 10% (CTCAE: 1, 2, 3). 42% of patients required drug withdrawal or dose reduction due to toxicity. Regarding the results of the polymorphisms studied, 95.3% presented a wild-type genotype for the analysed variants. 4.7% of patients presented with some mutated allele (heterozygote): three patients for rs3918290, three patients for rs67376798 and two patients for rs56038477, coinciding with the patients who presented greater toxicity.

Conclusion and relevance The heterozygous patients detected were at risk of developing severe toxicity when they were treated with fluoropyrimidines and they required dose adjustment of these drugs. The use of these pharmacogenetic tools for the determination of polymorphisms of the DPYD gene in routine practice allows us to predict the potentially serious toxicity, favouring the individualised use of these drugs.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest