analysed by real-time polymerase chain reaction (PCR) with TaqMan probes and Sanger sequencing. Response was evaluated according to the indications of the Spanish Guide for the Management of Asthma (GEMA) and the statistical analysis was carried out with R 3.0.1.

Results 70 patients were included in the study, of whom 64% were women (45/70) and 36% men (25/70). Average patient age was 52±15 years with a median treatment duration of 4 (2,6) years. 57% of the patients responded to the treatment according to the GEMA Guide compared to 43% who did not get a response. The bivariate analysis between response and Arg102Gly gene polymorphism of C□3 domain showed that patients carrying Arg102Gly-C allele (p=0.0384; OR 2.97; 95% CI 1.07 to 8.94) presented better response to treatment with omalizumab. Specifically, the response was increased by 30% in patients with Arg102Gly-C allele.

Conclusion and relevance The use of biological drugs has led to a significant improvement in these patients' quality of life. However, identification of the correct therapy is a prognosis critical point. In this study, an allelic variant in C3 gene was positively associated with omalizumab treatment response. This discovery makes possible the approach to a personalised medicine that allows the improvement of prognosis in severe allergic asthma patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-069 INFLUENCE OF GENETIC VARIANTS IN THE VITAMIN D HYDROXYLATION PATHWAY AS A RESPONSE FACTOR TO PLATINUM-BASED CHEMOTHERAPY IN NON-SMALL CELL LUNG CANCER

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Background and importance Chemotherapy based on platinum compounds is the standard treatment for non-small cell lung cancer (NSCLC) patients with EGFR wild type and is also used as second line in mutated EGFR patients. Vitamin-D may influence chemotherapy response by inhibiting tumour progression, suppressing metastasis, cell proliferation, and angiogenesis, or promoting apoptosis. Therefore, gene polymorphisms in the vitamin D signalling pathway might have an impact on chemotherapy response. Recent studies reported that genetic background plays a key role in the chemotherapy response. However, little is known about the implication of *CYP2R1* and *CYP27B1* gene polymorphisms, which regulate the activation of circulating vitamin D through hydroxylation, in the response to platinum-based chemotherapy.

Aim and objectives The aim of this study was to evaluate the influence of polymorphisms in the *CYP2R1* and *CYP27B1* genes on the platinum-based chemotherapy response in patients with NSCLC.

Material and methods A prospective cohort study was conducted. 165 patients diagnosed with NSCLC between 2003 and 2019, followed-up until December 2020. *CYP27B1* (rs4646536, rs3782130, rs703842, rs10877012) and *CYP2R1* (rs10741657) polymorphisms were analysed by real-time PCR using TaqMan probes. Response (CR: complete response, PR: partial response) and no response (SD: stable disease, PD: progressive disease) were evaluated.

Results Patients' median age at NSCLC diagnosis was 62 (53–67) years; 73.3% (121/165) men; 69.09% (114/165) stage IIIB-V; 59.39% (98/165) adenocarcinoma; 58.18% (96/165) family history of cancer; 24.24% (40/165) previous lung disease; EGFR status: 52.73% (87/165) wild type, 10.91% (18/165) mutated, 36.36% (18/165) unknown; 22.56% surgery; 31.52% radiotherapy; chemotherapy agents: 18.29% (30/164) gemcitabine; 21.34% (35/164) paclitaxel; 24.39% (40/164); 35.98% (59/164). 65.85% (108/164) response; 34.15% (56/164) no response.

Patients carrying the *CYP2R1*-rs10741657-G alleles were associated with better response (p=0.017; OR 3.17; 95% CI 1.19 to 8.42; G vs AA). However, for *CYP27B1* (rs4646536, rs3782130, rs703842, rs10877012) we did not find a statistically significant association.

Conclusion and relevance Our results suggest that *CYP2R1* rs10741567 G-allele influences response in platinum-based chemotherapy in NSCLC patients. Therefore, this polymorphism could be used as a response biomarker in NSCLC patients undergoing treatment with platinum-based chemotherapy.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-071 CYP27B1 GENETIC VARIANTS' INFLUENCE IN NEPHROTOXICITY DUE TO PLATINUM-BASED CHEMOTHERAPY IN NON-SMALL CELL LUNG CANCER

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Background and importance Platinum-based doublet-chemotherapy is the standard treatment for non-small cell lung cancer (NSCLC) for epidermal growth factor receptor (EGFR) wild-type patients, which presents high percentages of severe adverse events, such nephrotoxicity (20%–30%).

Nephrotoxicity is characterised by high morbidity and mortality. Cisplatin is one of the major causes of nephrotoxicity. Several studies have shown that vitamin D activation through CYP27B1 and CYP2R1 enzymes is protective against chronic kidney disease among other pathological pathways. However, few studies have focused on the role of vitamin D pathway genetic polymorphisms in nephrotoxicity.

Aim and objectives The aim of this study was to evaluate the influence of *CYP27B1* and *CYP2R1* gene polymorphisms on nephrotoxicity due to platinum-based chemotherapy in NSCLC.

Material and methods Prospective cohort study. 165 patients diagnosed with NSCLC between 2003 and 2019, followed up until December 2020. *CYP27B1* (rs4646536, rs3782130, rs703842, rs10877012) and *CYP2R1* (rs10741657) polymorphisms were analysed by real-time polymerase chain reaction (PCR) using TaqMan probes. Nephrotoxicity was evaluated according to the Common Terminology Criteria for Adverse Events (CTCAE) v.4.0.

Results Patients' median age at NSCLC diagnosis was 62 (53–67) years; 73.3% (121/165) men; 69.09% (114/165) stage IIIB-V; 59.39% (98/165) adenocarcinoma; 58.18% (96/165) family history of cancer; 24.24% (40/165) previous lung disease; EGFR status: 10.91% (18/165) mutated. Chemotherapy agents: 18.29% (30/164) gemcitabine; 21.34% (35/164) paclitaxel; 24.39% (40/164); 35.98% (59/164). Nephrotoxicity: 17.58% (29/165).

Patients carrying the *CYP27B1*-rs4646536 (p=0.0312; OR 0.32; $CI_{95\%}$0.10 to 0.84; AG vs AA); *CYP27B1*-rs3782130 (p=0.0247; OR 0.22; $CI_{95\%}$0.05 to 0.85; CC vs G); *CYP27B1*-rs703842 (p=0.0121; OR 0.15; $CI_{95\%}$0.03 to 0.67; CT vs CC) and *CYP27B1*-rs10877012 (p=0.0239; OR 4.50; $CI_{95\%}$1.17 to 17.2; TT vs G), were associated with nephrotoxicity. However, for *CYP2R1*-rs10741657 we did not find a statistically significant association.

Conclusion and relevance Our results suggest that rs4646536, rs3782130, rs703842 and rs10877012 influence nephrotoxicity in platinum-based chemotherapy. CYP27B1 is the only enzyme capable of activating vitamin D. Therefore, genetic study of these polymorphisms could be used as a toxicity prediction biomarker in NSCLC patients undergoing platinum-based chemotherapy.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-072 BEZLOTOXUMAB FOR THE PREVENTION OF *CLOSTRIDIOIDES DIFFICILE* RECURRENCE: STUDY IN THE REAL WORLD

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Background and importance *Clostridioides difficile* is the most common cause of infectious diarrhoea in hospitalised patients and causes great morbidity due to the high percentage of recurrence. Bezlotoxumab is a monoclonal antibody against toxin B, intended to prevent relapse. Due to its high cost, it is used in a population and under conditions slightly different to those referred to in the MODIFY clinical trials. Due to the scarcity of real-life studies, it is necessary to collect data on the effectiveness of bezlotoxumab in daily hospital practice.

Aim and objectives To determine the effectiveness of bezlotoxumab in preventing recurrences of *C. difficile* infection (CDI) in patients from a tertiary hospital in Spain.

Material and methods We conducted a longitudinal, retrospective study of a cohort of patients treated with bezlotoxumab between 2 August 2018 and 31 March 2021. All patients received a single infusion of bezlotoxumab at 10 mg/kg. The main variable was the percentage of clinical cure within 12 weeks. As secondary variables, this percentage was analysed in terms of different risk factors.

Results 52 patients were included in the study. The median age was 73.5 years, 32 (61.5%) were women and the median Charlson index was 5.16. ?? (42.9%) patients received bezlotoxumab during the first CDI episode, 22 (30.8%) during the first recurrence and 14 (26.4%) during the second or later recurrences. 32 patients (61.54%) received vancomycin at standard dose during recurrence, 16 (30.77%) used vancomycin tapering and 4 (7.69%) fidaxomicin. There were 9 (18.4%) recurrences within 12 weeks of bezlotoxumab infusion. It should be noted that 6 patients died during the inpatient stay and 3 others did so during the 12 weeks of follow-up, so they were excluded from the calculation of the recurrence ratio. The main risk factor for recurrence identified was severe infection (77.8% of recurrences) followed by age above 65 years and immunosuppression, which were present in 66.7% and 44.4% of the recurrences, respectively.

Conclusion and relevance The recurrence ratio at 3 months of bezlotoxumab administration was 20.9%, which is similar to that found in the pivotal clinical trials (16.5%). The highest prevalence of recurrences was identified in the subgroup of patients with severe CDI.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-075 EVALUATION OF THE COST OF MANAGING ADVERSE EVENTS RELATED TO CYTOTOXIC DRUGS IN CHILDREN

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Background and importance Despite the public health importance of the problems posed by cancer, there are few studies focusing on the economic aspects, particularly those devoted to second-line treatment, to manage the secondary events associated with cytotoxic drugs.

Aim and objectives The objective of this study was to estimate and evaluate the cost of the management of secondary events following chemotherapy treatments in children.

Material and methods This was an 'indirect cost of illness' study conducted by the analysis of 63 medical records of children with eight different types of cancer who all received cisplatin in their chemotherapy protocols and who were being treated in the paediatric hemato-oncology department of Rabat.

Results We analysed 45/63 medical records because of their unavailability at the time of the analysis. 80% of the patients were still undergoing treatment, 7% were under palliative treatment, and 13% died. Median age was 5 years.

Cancer type: neuroblastoma 51%, malignant germ cell tumour 13%, medulloblastoma 11%, osteosarcoma 9%, nasopharyngeal undifferentiated carcinoma 7%, hepatoblastoma 5%, and 2% each for metastatic rhabdomyosarcoma and sacrococcygeal teratoma.

Only sacrococcygeal teratoma and metastatic rhabdomyosarcoma, which showed 127 managements in front of the appeared side effects, in 88% of cases the drugs were administered to correct adverse effects, in 5.5% the cures were shifted, in 4.7% the cures were stopped and in 1.8% the dosages were reduced.

Based on the cost of the drugs administered to treat and correct the side effects of these two types of cancer, we noted a total of € 4500 in addition to the cost of chemotherapy.