optimise trt management, safety and outcomes. This innovative cancer care model could improve drug awareness of drug consumption and patient education to promptly recognise and manage AEs.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-286 EARLY IMPACT OF COVID ON THE ACTIVITY OF A CLINICAL RESEARCH ONCOLOGY PHARMACY UNIT AT A TERTIARY CARE HOSPITAL

P Rovira Torres*, P Latorre García, J Martínez Casanova, C Esteban Sanchez, E Serramontmany Morante, P García Ortega, M Carreres Prieto, L Maños Pujol, I Cidoncha Muñoz. Hospital Vall D'hebron, Pharmacy, Barcelona, Spain

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Background and importance The COVID-19 pandemic has impacted notably on clinical care and led to numerous challenges in the conduct of clinical trials (CT). Hospital pharmacies have had to develop new procedures and strategies to ensure pharmaceutical care, availability of treatment and patient safety.

Aim and objectives To analyse the activity in a clinical research oncology pharmacy unit during the COVID-19 period.

Material and methods We retrospectively collected the number of site initiation visits (SIV) and pharmaceutical care visits (screening visits, cycle 1 day 1 (C1D1) visits, follow-up visits, medical queries or patient's queries) performed in our unit from January to September 2020. Three phases were differentiated: 'pre-state of emergency' from 1 January to 13 March; 'state of emergency' from 14 March to 21 June; and 'post-state of emergency' from 22 June to 30 September.

Results During the 'pre-state of emergency' phase, 31 SIV and 273 pharmaceutical care visits were performed. Of these 273, 75 were screenings, 67 C1D1 visits, 26 follow-up visits, 28 medical queries and 77 patient queries.

In the 'state of emergency' phase, 47 SIV and 206 pharmaceutical care visits were performed. Of these 206, 69 were screenings, 55 C1D1 visits, 10 follow-up visits, 35 medical queries and 37 patient queries. During the first 90 days of this emergency state, citizens were confined, so remote pharmaceutical care and remote SIV were implemented. 34 screenings were performed and 33 queries about interactions or drug instructions for patients were resolved. Medication was delivered to 139 patients. Four chemotherapy regimens were modified, extending in time administrations of pembrolizumab and cetuximab in four patients. 28 SIV were performed remotely (10 phase I CT, 7 phase II CT and 11 phase III CT).

During the last phase, 60 SIV and 365 pharmaceutical care visits were performed. Of these 365, 83 were screenings, 79 C1D1 visits, 42 follow-up visits, 95 medical queries and 66 patient queries.

Conclusion and relevance The oncohaematological CT pharmacy unit managed to maintain pharmaceutical activity and care during the state of emergency period due to COVID-19, highlighting a considerable increase in activity in the months after the state of emergency.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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4CPS-287 IMPACT OF SARS-COV-2 INFECTION IN ACUTE MYELOID LEUKAEMIA PATIENTS: EXPERIENCE OF THE PETHEMA REGISTRY

¹T Palanques Pastor*, ¹J Megias Vericat, ²P Martínez, ³J Cornago Navascués, ³JL López Lorenzo, ⁴G Rodríguez, ⁵I Cano, ⁶M Arnau Sangerman, ¹JL Poveda Andrés, ¹P Montestinos. ¹Hospital Universitari i Politècnic La Fe, Pharmacy Service, Valencia, Spain; ²Hospital Universitario 12 de Octubre, Haematology and Haemotherapy Service, Madrid, Spain; ³Hospital Universitario Fundación Jiménez Díaz, Haematology and Haemotherapy Service, Madrid, Spain; ⁴Hospital General Universitario Gregorio Marañón, Haematology and Haemotherapy Service, Madrid, Spain; ⁵Hospital Universitari i Politècnic La Fe, Haematology and Haemotherapy Service, Valencia, Spain; ⁶Instituto Catalán de Oncología, Clinic Haematology Service, Hospitalet de Llobregat, Spain

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Background and importance SARS-CoV-2 infection can impact the survival of patients with acute myeloid leukaemia (AML) but there is little published evidence in AML.

Aim and objectives To analyse the clinical features and outcome of SARS-CoV-2 infection in AML patients.

Material and methods An observational multicentre study was conducted between March and May 2020 with 117 patients reported from 47 Spanish centres. Leukaemic and viral infections were studied, and inter-relationships were established.

Results Median age was 68 years, men (56.7% vs 43.3%), median time from AML diagnosis to SARS-CoV-2 was 4 months and mean number of comorbidities was 1.2. Cytogenetic risk was low in 16.9%, intermediate in 57.1% and high in 26.0%; 55.7% had active disease, 39.2% complete remission and 5.1% partial response. 29.4% were off-therapy and 70.6% were receiving anti-leukaemic treatment: induction chemotherapy (25.3%), hypomethylating (19.3%), clinical trial (17.0%), consolidation chemotherapy (14.8%), venetoclax (3.4%), FLT3 inhibitors (3.4%) and/or maintenance (1.1%). Overall, 3.7% were newly diagnosed, 77.8% had received one line of treatment, 14.8% two and 3.7% four. 15.4% had prior allogeneic transplantation.

Only 4.0% of patients were asymptomatic, while the main signs and symptoms were fever (77.8%), pneumonia (75.0%), cough (65.3%), dyspnoea (52.0%), diarrhoea (20.4%), nausea/vomiting (12.2%), rhinorrhoea (10.2%) and headache (7.4%). Analytical parameters were: neutrophils 3112 cells/μL (1900–7300), lymphocytes 1090 cells/μL (1000–3000), interleukin 6 118 pg/mL (0–100), ferritin 4505 ng/mL (15–150) and D-dimer 2823 ng/mL (20–500), with liver enzymes altered in 23.9% of cases. 84.2% received specific treatment for coronavirus infection: chloroquine or hydroxychloroquine (82.2%), lopinavir/ritonavir (54.0%), corticosteroids (39.6%), azithromycin (33.0%), tocilizumab (15.8%), plasma convalescent (3.0%), clinical trial medication (3.0%), remdesivir (2.0%) and/or anakinra (1.0%).

The course was mild in 14.7%, moderate in 32.0% and severe in 53.3%. Mean time to negativisation was 20.5 days, duration of symptoms 17.6 days and hospital stay 11.1 days. In 48.1% of cases treatment for AML was maintained, in 26.6% delayed and in 25.3% modified due to coronavirus disease. 47.5% died, establishing an association between mortality

and age over 60 years (58.3% vs 36.4%, $p=0.043$), ≥ 2 lines of treatment (72.7% vs 44.3%, $p=0.020$), active disease (62.5% vs 29.4%, $p=0.002$) and pneumonia (61.2% vs 22.7%, $p=0.002$). Overall, 47.5% overcame the infection, and in 5.0% SARS-CoV-2 genetic material was still detected at the time of analysis. A non-significant lower mortality rate was observed among: previous transplantation (45.7% vs 64.3%, $p=0.19$), neutrophil >1900 cells/ μL (41.1% vs 60.0%, $p=0.09$), lymphocyte >1000 cells/ μL (42.9% vs 63.6%, $p=0.09$) and hydroxychloroquine or chloroquine plus azithromycin (35.3% vs 60.0%, $p=0.10$).

Conclusion and relevance SARS-CoV-2 infection produced high mortality among AML patients. Mortality was correlated with age, active disease and pneumonia.

REFERENCES AND/OR ACKNOWLEDGEMENTS

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4CPS-288 CLINICAL PHARMACIST'S IMPACT IN IMPROVING THE SAFETY OF THERAPIES FOR PATIENTS USING ORAL ANTICANCER AGENTS: A PROSPECTIVE SINGLE CENTRE STUDY

J Tabe*. Pharmacist Hospital, Pharmacy, Huissignies, Belgium

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Background and importance Oral anticancer agents (OAA) are frequently used in oncology practice. Drug interactions involving OAA are of great concern as they can cause an altered safety or efficacy profile for cancer treatments.

Aim and objectives To estimate the prevalence of potential drug interactions in cancer patients to justify the implementation of preventive actions to optimise the effectiveness and efficiency of cancer management, in a context where the relevance of care is a public health issue.

Material and methods Data on drugs used for comorbidities, OAA, over-the-counter (OTC) drugs and herbal supplements were collected through a structured interview with the patient, a review of medical records and a call to the dispensing pharmacist. Potential drug interactions involving OAA were detected during the primary prescribing process using the databases Lexicomp and Micromedex.

Results 51 patients were included in the study. The median age of patients was 70 years. We identified 26 potentially clinically significant interactions (PCSI) in 24 patients (47%). Of the PCSI detected, 17.4% were assessed by both sources as major interactions and 8.7% as moderate interactions. The OAA that interacted the most were anagrelide (19.2%), capecitabine (15.4%) and lenalidomide (11.5%). PCSI involving OAA appeared in the following therapeutic classes: PPI 26.9%, herbal therapy 11.5% and antiplatelet-anticoagulants 11.5%. We observed that 30.8% of PCSI resulted in an altered efficacy profile of the OAA.

Conclusion and relevance Analysis of PCSI in cancer patients allows the description of the use of OAA and thus how to optimise monitoring of the correct use of these drugs. The clinical pharmacist can improve drug safety by notifying hospital and frontline healthcare staff of PCSI to reduce drug therapy problems and optimise drug therapy for these patients.

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4CPS-289 ANALYSIS OF ANTINEOPLASTIC DRUG CONTAMINATION LEVEL IN THE HOSPITAL PHARMACY: PROBLEM MONITORING AND SOLVING

¹V Garau*, ¹SG Gheza, ¹S Colombo, ¹S Cadelano, ²M Tulli, ²G Marcias, ¹P Serra. ¹A Businco' Oncology Hospital, Hospital Pharmacy, Cagliari, Italy; ²A Businco' Oncology Hospital, Hospital Prevention and Protection Service, Cagliari, Italy

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Background and importance Handling of antineoplastic agents poses major health risks to healthcare workers. Apart from pharmacists, nurses and physicians, staff involved in cleaning, transport and disposal of hazardous drugs or contaminated material are also involved. Monitoring via wipe samples can be used to investigate mechanisms of release and spread and thus help identify possible sources and routes of exposure.

Aim and objectives Our aim was to evaluate the effectiveness of our decontamination procedure, to obtain objective data on contamination of operators in contact with antineoplastic drugs.

Material and methods The preparation rooms have closed laminar flow hoods where drugs are reconstituted and diluted using closed circuit devices. The exposure assessment involved nine nurses and two pharmacists. Biological monitoring was performed for cyclophosphamide (CP), gemcitabine and urinary metabolite 5-fluorouracil (5-FU), alpha-fluoro-beta-alanine (FBAL) in urine at the end of the shift. Analyses were performed using UHPLC-MS/MS liquid chromatography. In parallel, environmental monitoring was carried out for the determination of 5-FU and CP on the surfaces inside and adjacent to the set-up area and on the operators, using the WIPE test and PAD test techniques, respectively, at the beginning and end of the shift.

Results Levels of urinary metabolites measured were all below their respective limits of determination (LOD). Drug contamination measured by the WIPE test was found to be slightly above the reference value of 0.1 ng/cm² and high contamination in the external handle of the laminar flow hood was found. The analytical results collected by the PAD test showed levels of 5-FU lower than the LOD and the presence of a trace of CP on the preparer, while significant contamination by 5-FU was found on the chest and forearm of the off-field operator.

Conclusion and relevance This study highlighted environmental contamination with a low exposure of operators limited to the preparation laboratory, but higher contamination levels were found on laboratory surfaces and on an off-field operator. Improper transport of a contaminated drug basket to a clean zone is critical. This assessment allowed us to review and update our decontamination procedure, confirmed by the subsequent environmental control. A monitoring schedule for the environment and health workers and specific training courses for the cleaning teams were proposed.

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