4CPS-186 IMPLEMENTATION OF A PATIENT STRATIFICATION MODEL IN OUTPATIENT PHARMACY FOR IMMUNE-MEDIATED DERMATOLOGICAL DISEASES

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Background and Importance Pharmaceutical care (PC) involves pharmacists engaging with patients to achieve safe pharmacotherapeutic goals, improving health outcomes. The Spanish Society of Hospital Pharmacy devised the CMO stratification model (Capacity, Motivation, Opportunity) to determine patient follow-up frequency and target those who benefit most from PC. It assigns patients to priority levels 1, 2, or 3 (normally 10%, 30% and 60% of stratified patients respectively) aiding pharmacists in optimising resources and tailored interventions.

Aim and Objectives To determine the complexity of patients with immunomediated dermatological diseases initiating biological therapy in our hospital, using the CMO model, and compare the results with the expected model outcomes.

Material and Methods A cross-sectional study completed between May and September 2023 at a Spanish Tertiary hospital. Patients diagnosed with immunomediated dermatological diseases, initiating biological therapy were included. To determine the complexity level, the CMO model was applied, encompassing 23 variables in demographic, sociosanitary and cognitive, healthcare service utilisation, and treatment-related categories. The patient's total score was calculated by combining the points assigned to each variable. Data were collected from patient medical records, electronic prescription dispensing records, and clinical interviews in pharmaceutical care consultations. Results were compared with the percentage distribution proposed for each complexity level by the model.

Results A total of 52 patients were stratified, 94% adults and 56% males. Among them, 88% had psoriasis, 8% atopic dermatitis, and 4% hidradenitis. Variables such as active smokers (23%), language barrier (4%), psychiatric history (31%), and reduced quality of life (83%) were identified. Additionally, 29% had $\geq$2 chronic diseases, and 73% exhibited moderate/high disease activity. Regarding treatment, 27% were on polypharmacy, 42% were treatment-naive, 8% had a risk of significant interactions with their existing medication, and 10% of non-adherence.

Upon applying the CMO model, 8% (4) fell into priority 1, 48% (25) priority 2, and 44% (23) priority 3.

Conclusion and Relevance Against expectations from the CMO, most patients were in level 2 instead of level 3, possibly due to stratification timing, occurring during treatment initiation or changes when patients' diseases were most exacerbated.

Through the CMO application, we identified patients most likely to benefit from PC, enabling us to reallocate resources for more regular follow-up, ensuring comprehensive patient support.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

4CPS-187 DEVELOPMENT OF A POPULATION PHARMACOKINETIC MODEL OF CYCLOSPORINE

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Background and Importance Cyclosporine is an immunosuppressive drug with complex pharmacokinetics, a narrow therapeutic interval and dose-related adverse effects (nephrotoxicity, hepatotoxicity, and neurotoxicity).

Amiodarone, verapamil and macrolides increase cyclosporine serum concentrations (CSC), whereas other drugs such as phenytoin, carbamazepine and rifampin decrease CSC.

Therefore, therapeutic drug monitoring of cyclosporine is of great importance in routine clinical practice.

Aim and Objectives

- Design a population pharmacokinetic model of cyclosporine.
- Analyse the influence of the recorded covariates.

Material and Methods Retrospective observational study that included patients hospitalised at Severo Ochoa University Hospital and treated with cyclosporine between January 2016 and April 2022. Patients hospitalised in the ICU and outpatients were excluded.

Data recorded date, time and value of the CSC, route of administration, doses administered, sex, age, weight, haematocrit, albumin, serum creatinine and concomitant treatment.

We tested the one- and two-compartmental models with four estimations: first order, first order with interaction, first order conditional and first order conditional with interaction. The influence of the recorded covariates was evaluated, selecting those that showed a statistically significant reduction in the objective function (OFV).

Results

Patients included 29 patients, aged 65 years-old (28–92), 66,7% female. Mean weight was 75.1 kg (42.5–125), serum creatinine 1.12 mg/dL (0.33–4.41), serum albumin 3.5 g/dL (2.3–4.6) and haematocrit 32.6% (13.4–48.5). None of the patients received the registered drugs.

The one-compartment model showed a better OFV than the two-compartment model (-663,636 vs -654,430). However, the graphical analysis showed a better correlation between the CSC and those predicted, therefore the analysis of the covariates was continued with the two-compartment model.

The variables were evaluated in the two-compartment model and an influence of age and weight on clearance was observed, with statistically insignificant differences. No covariate showed an effect on the volume of distribution.

Conclusion and Relevance

- The two-compartment model with first order conditional estimation with interactions showed a better goodness of fit.
- The development of a pharmacokinetic model of cyclosporine assists clinicians to establish an effective and safe dosing regimen.
- Further studies are needed to better analyse the population pharmacokinetics of cyclosporine.

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