4CPS-258: PHARMACOKINETICS ALTERATIONS IN FIVE CRITICALLY ILL PATIENTS ON EXTRACORPOREAL MEMBRANE OXYGENATION RECEIVING ISAVUCONAZOL

L. Doménech, S. García García, M.R. Sosa Garay1, M. Miarons Font, J. Riera Del Brio1, J. Vima Borafull2, M.Q. Gorgas Torner (Spain)
Pharmacy Department. 1: Critical Care Department. 2: Clinical Laboratory Department.
Vall d’Hebron University Hospital. Contact: laura.domenech@vallhebron.cat

BACKGROUND

- Extra Corporeal Membrane Oxygenation (ECMO) can modify drug pharmacokinetics and pharmacodynamics.
- We report five critically patients and known isavuconazol pharmacokinetics alterations induced by ECMO itself.

AIMS AND OBJECTIVES

- Study the correlation between the dose of isavuconazol administered and its plasma drug concentrations (IsaPlasm).
- Secondary, analyzing differences in IsaPlasm at different points in the circuit to study drug sequestration.

MATERIALS AND METHODS

- Prospective study in critically ill patients treated with intravenous isavuconazol and receiving ECMO in the Intensive Care Unit (ICU) from August 2021 to August 2022.
- Isavuconazol area under the curve (AUCisa) was calculated using trapezoidal method. Blood samples were drawn from an arterial catheter and from ECMO circuit pre- and post-oxygenator at 0 (predose) and 1 hour (end of infusion), and from an arterial catheter at 2, 4, 6 and 12 hours after isavuconazol infusion.
- It was established a therapeutic goal of IsaPlasm 2.5-5µg/ml. Analytical method used was high-pressure liquid chromatography. Differences greater than 10% on ECMO sites were considered as a possible drug sequestration.

RESULTS

- 5 Covid-19 Critical ill patients treated with ECMO support. ECMO configuration used was VV in all cases.
- All of patients received loading dose of isavuconazole 200 mg/8h during 48h. No relevant drug interactions identified.

CONCLUSIONS AND RELEVANCE

- There was a significant sequestration of isavuconazole in ECMO circuit in two patients with young circuit.
- Patients required different isavuconazole posology to achieve therapeutic goals, suggesting the importance of therapeutic drug monitoring.