MONITORING OF LINEZOLID IN HEMODIALYSIS: A CLINICAL CASE

L. Sopena[1], M.A. Allende[1], M. Arenere[1], I. Navarro[1], A.B Wennekers[2], A. Merchán[1], M.R. García[1], E. Chilet[1], I. Varela[1], M. Merchante[1].

[1]Hospital Clínico Universitario Lozano Blesa, Pharmacy Service, Zaragoza, Spain.

[2]Hospital Clínico Universitario Lozano Blesa, Nephrology Service, Zaragoza, Spain.

lsopena@salud.aragon.es

BACKGROUND AND IMPORTANCE

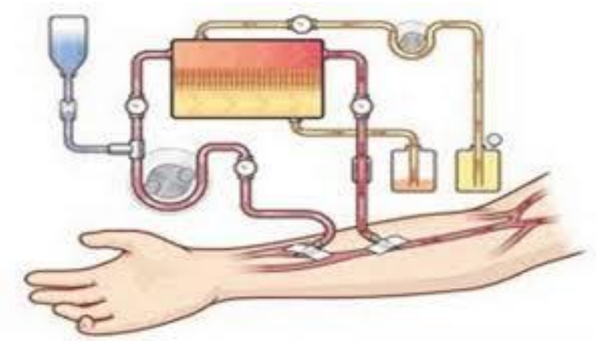
The Antimicrobial Therapy Guidelines recommend the conventional dosage of linezolid (600 mg every 12 hours) for patients on hemodialysis (HD). Linezolid dialyzes 40% by HD.

AIM AND OBJECTIVES

Monitor plasma concentrations of linezolid in a patient on HD.

MATERIAL AND METHODS

- 63-year-old man
- Medical history: saphenous vein and **stage IV of chronic kidney disease** on an **HD program**



- He was admitted to the Intensive Care Unit (ICU) for **septic shock** due to an ischiorectal abscess.
- In the culture of the perineal abscess, *Enterococcus faecium* sensitive to linezolid (MIC 2) was isolated → **linezolid 600mg every 12h** was started.
- During his stay in the ICU he underwent **daily continuous hemodiafiltration.**
- He was transferred to the ward where he underwent **3 conventional high flow HD sessions per week** → we were asked to monitor linezolid levels due to probable toxicity associated with a decrease in platelets (196,000/mcl at that moment vs. 441,000/mcl prior to linezolid).

RESULTS

- After 12 days of starting treatment with linezolid 600 mg every 12 hours, a trough level of 12.6 was obtained **(range 2 – 7 mcg/ml)** → We recommended **discontinuing linezolid** and extracting another level the next day before and after HD. The levels found were 6.71 and 1.26 mcg/ml (HD elimination of 81.22%). We recommended restarting that same day at night with a dosage of **<u>600 mg every 24 hours</u>**.

- During the following days, we recommended to continue with the same **dosage guided by pre and post HD levels**. The **platelet count increased** progressively after establishing levels within the therapeutic range.

Days from the start with linezolid	Pre-HD level (mcg/ml)	Post-HD level (mcg/ml)	HD elimination (%)
13	1.26	6.71	81.22
15	1.39	5.95	76.64
23	2.06	7.14	71.15
25	2.04	8.32	71.15

CONCLUSION AND RELEVANCE

This clinical case demonstrates that there may be patients undergoing HD who have toxic levels of linezolid with the standard dosage, demonstrating the need for monitoring and dose adjustment in these cases.

We have also observed that the HD elimination in this patient differ from what is reported by the Guidelines probably due to the different type of HD membrane.

Abstract Number: 4CPS-204 **ATC Code: J01- ANTIBACTERIALS FOR SYSTEMIC USE**