

CASE REPORT 10 [ID#95]

New Dosing Regimen for Fomepizole During CRRT: A Case Report

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BACKGROUND/OBJECTIVES: Fomepizole is the preferred antidote treatment for methanol and ethylene glycol poisoning, but the availability is limited due to the price. Being dialyzable, increased dosing from every 12 to every 4 hours during intermittent dialysis (IHD) is necessary. During continuous dialysis (CRRT), blood- and dialysate flow is lower compared to IHD. Reduced dosing frequency during CRRT should therefore be possible, saving drug costs. Current dosing recommendations are based on one unpublished case report and a theoretical assumption (1). We present a case report with the new suggested dosing regimen during CRRT.

METHOD: A 54-year old man with suspected methanol poisoning and a severe metabolic acidosis was treated with fomepizole and CRRT: pH was 6.81, base excess -32.8mM, lactate levels were undetectable. He received a loading dose of fomepizole (15mg/kg) and CRRT was initiated after 90 min. During the treatment, the blood flow was 100 ml/min and dialysate flow was 2000ml/hour. A second dose (10mg/kg) was given eight hours after start of CRRT. Samples were collected from pre- and post-filter blood, as well as from the dialysate during treatment. Fomepizole was measured using high-pressure liquid chromatography with a reverse phase column (sensitivity 5 μ M; coefficient of variation 4.5% at 25 μ M).

RESULTS: Average plasma fomepizole concentration was 164 μ M (range 75-239 μ M). The half-life was 5.9 and 4.4 hours after the first and second dose. The lowest concentrations before the next dose after 8 hours were 88 and 75 μ M (recommended minimum serum concentration 10 μ M).

CONCLUSION: This is the second published case where fomepizole was dosed after the new, reduced dosing regimen @8 hours rather than @4 hours. This regimen safely reduces the need for fomepizole dosing by about 50% during CRRT, yet maintains adequate blood levels, supporting earlier assumptions.