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Introduction

Quetiapine, lacks a specific antidote in cases of overdose. CRRT may still be considered as part of broader supportive care. In addition to this primary action, CytoSorb has shown potential to adsorb a variety of exogenous substances

Methods

We report the case of a 30-year-old man, weighing 131 kg with the diagnosis of suspected quetiapine intoxication in an anti-conservative attempt. The patient presents with acute respiratory failure, likely due to central respiratory depression from the overdose, as well as hypoxia and cardiovascular instability, which is being treated with norepinephrine (NE) to support blood pressure (0.2 mcg/kg/min). The patient developed gastroparesis and paralytic ileus secondary to anticholinergic effects from the drug overdose. The high plasma quetiapine concentration of 7,920 ng/ml (normal range: 40–400 ng/ml) confirms a significant overdose, which underscores the need for aggressive intervention. CRRT (Continuous Renal Replacement Therapy), specifically CVVHDF, is initiated due to the high plasma concentration of quetiapine. The addition of CytoSorb aims to enhance the removal of exogenous substances like quetiapine. CRRT + CytoSorb is continued for 48 hours, with cartridge changes every 24 hours, which is a key factor in ensuring efficient drug clearance.

Results

After 48 hours of treatment, the plasma concentration of quetiapine drops to 392 ng/ml, within the normal range. This reduction in drug concentration suggests that the combined CRRT + CytoSorb therapy was effective in removing quetiapine from the bloodstream. The norepinephrine (NE) support is gradually tapered and eventually discontinued on the second day after the end of CRRT + CytoSorb (see figure 1).

Conclusion

CytoSorb appears to have been beneficial in rapidly reducing the plasma concentration of quetiapine. Considering that Quetiapine overdose lacks a specific antidote, and potential co-ingestion of other drugs necessitates comprehensive supportive care, including airway management and cardiovascular monitoring. Physostigmine may be used cautiously under ECG monitoring but is contraindicated with conduction issues. Gastric lavage may help selectively. Quetiapine's elimination half-life is approximately 12 hours.

Figure 1: Norepinephrine trend and quetiapine values during treatment with CytoSorb

