

Acute intoxication with Quetiapine treated with CytoSorb: a case report

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Introduction

While many drug poisonings are successfully treated with specific antidotes, tricyclic antidepressant and/or atypical neuroleptic intoxications still represent a major challenge. In addition to conventional approaches, a novel hemadsorption device could represent a therapeutic opportunity for detoxification.

Methods

Here we report the case of an 18-year-old female with borderline personality disorder admitted for anticonservative use of Flurazepam, Fluoxetine, Risperidone, Quetiapine, and Alprazolam. The patient was in coma (GCS 3), spontaneously breathing with blood gas analysis in metabolic acidosis and modest increase in serum lactates. The patient was hypotensive in sinus tachycardia in complete LBBB. Sedation, orotracheal intubation and controlled ventilation, hydration with crystalloids and correction of metabolic acidosis were then performed, with complete regression of LBBB and persistence of RBBB on ECG. Given the persistence of hypotension, continuous infusion of low-dose norepinephrine was started.

Blood tests showed: Quetiapine 19.1710 ng/ml (active metabolite: norquetiapine 21489 ng/ml), Risperidone 132 ng/ml, Flurazepam 235 ng/ml, Fluoxetine 72 ng/ml, Alprazolam 45.55 ng/ml, Creatinine 1,10 mg/dl, Azotemia 41 mg/dl, electrolytes in range, CPK 4185 U/l, normal liver function.

At an initial nephrological consultation, dialysis therapy alone was not considered sufficient to remove the molecules in question. Subsequently, given the CK value > 4000 U/l, accompanied by a serum concentration of quetiapine of approximately 20,000 ng/ml (the toxic dose is considered greater than 400 ng/ml), CVVHDF was started with Cytosorb for 3 cycles (1 cartridge every 24 hours in post-filter).

Results

After CVVHDF with 3 cycles of Cytosorb, given the reduction in the dosage of noradrenaline and the blood dosages of Quetiapine (2200 → 2336 → 1695 ng/ml), dialysis therapy and the sorbent were interrupted.

Progressive recovery of consciousness and subsequent extubation on 4th day.

The patient was transferred to CSM on day 10.

Conclusion

In the absence of a proven beneficial therapeutic regimen and specific antidotes, the use of CytoSorb represents an alternative treatment for life-threatening complications of quetiapine intoxication. In particular, the efficacy of this adsorption technique for intoxications caused by lipophilic agents should always be evaluated, given the impossibility of CVVHDF alone to remove them.

Fig.1: Plasma levels of quetiapine during continuous venous haemodiafiltration (CVVHDF) + 3 haemadsorption treatments in 3 days

