

CRRT in the management of severe type B lactic acidosis due to antiretroviral therapy

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Severe type B lactic acidosis is a rare but serious side effect of antiretroviral therapy; a 6 y.o., 18 kg, HIV+ patient with this condition was successfully treated with CRRT. While taking stavudine, didanosine and efavirenz she developed acute mental status changes, abdominal pain, hyperammonemia, and lactic acidosis (lactate peak= 11.9 mEq/L). CVVHDF was performed through an 8F femoral catheter with an M60 filter. Blood flow was 50 ml/min. Initial prescription used Normocarb with 2 mEq KCL/l and 2 mEq KPO4/L for both dialysate and replacement fluids, at rates of 1500 ml/hr and 300 ml/hr respectively. In addition to CVVHDF, the patient was treated with thiamine, coenzyme Q, levocarnitine, riboflavin and ascorbic acid.

Improvement in mental status was seen within 8 hr of starting therapy. After 2 d, the circuit clotted and the patient was trialed off of CVVHDF. Lactate level had improved to 4.1 mEq/L and hyperammonemia had resolved. Serum lactate levels remained mildly elevated for 4 wks. She recovered fully and was restarted on abacavir, nelfinavir and efavirenz without rebound in lactate levels. The etiology of lactic acidosis in this condition is thought to be due to inhibition of mitochondrial DNA polymerase- β . Recovery depends on a recoupling of these mitochondrial pathways. CRRT may be an important bridge in stabilizing patients while metabolic therapy is initiated. This is the first report of CRRT being used successfully in a pediatric patient with this condition

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