



USE OF CYTOSORB IN MALA TREATMENT: A RETROSPECTIVE OBSERVATIONAL STUDY



Maisto C¹, Accogli A¹, Burzo DML¹, Mudoni A¹, Musio F¹, Naticchia A¹, Zacheo MD¹, Caccetta F¹, Ciocchetti P², Gemma D²

¹O.U Nephrology and Dialysis Ospedale Cardinale Panico, Tricase (Le), Italia;

²O.U O Anesthesia and Intensive Care Ospedale Cardinale Panico, Tricase (Le), Italia

BACKGROUND

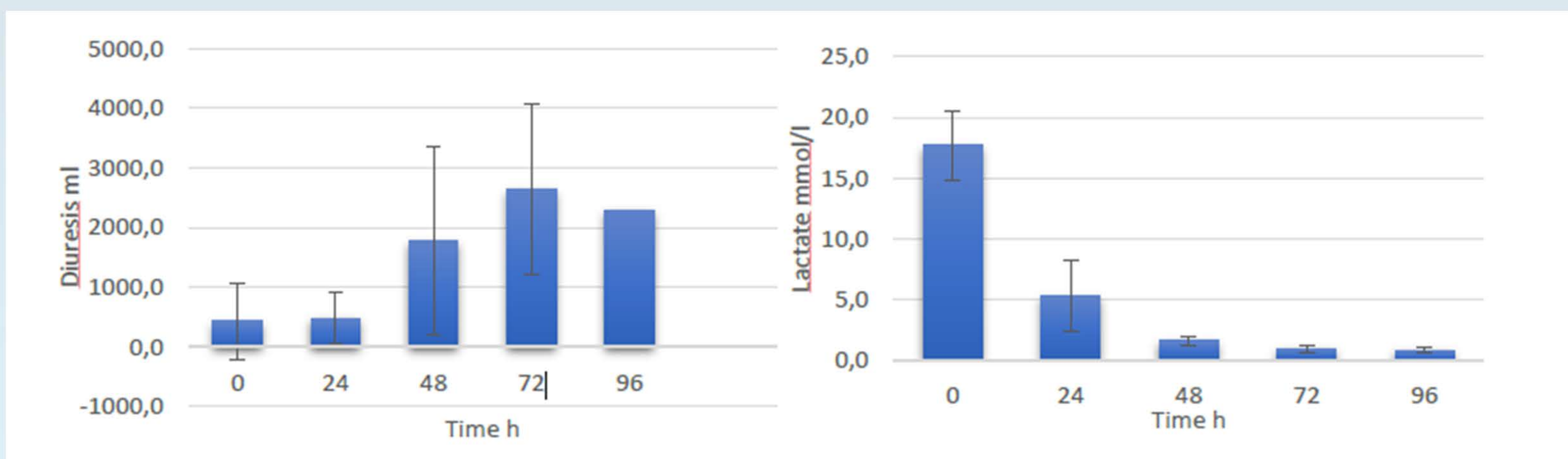
Metformin-associated lactic acidosis (MALA) is a rare complication of diabetes mellitus type 2 therapy. MALA is a life-threatening condition, with a mortality rate of 30-50%. The management of MALA is controversial. The use of intermittent hemodialysis or continuous renal replacement therapy has been reported in some case reports, while there are very few data available on the use of hemoadsorption.

METHODS

Over a 3-years period, we retrospectively identified 3 patients admitted to “Cardinale G. Panico” Hospital, Tricase (LE) for MALA and treated with CRRT + Cytosorb as adjuvant therapy to standard supportive care. CRRT was performed in continuous veno-venous hemodialysis (CVVHD) using a Multifiltrate CiCa (Fresenius Medical Care) and an AV1000S hemofilter (Fresenius Medical Care) with pre-dialyzer CytoSorb. Blood flow rates (Q_b) were maintained between 100 and 150 mL/min, while dialysis doses ranged from 20 to 35mL/kg/h according to standard care. All patients received 2 CytoSorb cartridges changed every 24h. For each patient were described: duration of CRRT treatment, Cytosorb start date, number of filters used and duration of Cytosorb treatment. Different profiles have been studied: the renal profile (creatinine, azotemia and 24h diuresis); the hemodynamic profile (mean arterial pressure MAP, number of inotropes used, lactates); the acid-base profile (pH). All these items were recorded at time 0 (T0), before the start of Cytosorb, after 24h from the start of treatment with Cytosorb, and also at 48h, 72h and 96h.

RESULTS

The observed survival rate was 100%. In all patients we observed a reduction in the demand for inotropic drugs and an improvement in haemodynamics (increase in MAP and decrease in lactate levels). We have also seen an improvement in pH values and a resumption of diuresis.



CONCLUSION

The Cytosorb cartridge is able to adsorb and remove several drugs, including metformin. This rapid drug removal allows a rapid resolution of the resulting severe metabolic acidosis. In our study, 100% of treated patients survived and showed a rapid improvement in pH, hemodynamics (MAP increase and lactate reduction) and consequently in diuresis. This is a noteworthy result since very few cases of its use in this context are reported in the literature. The cartridge, in fact, would adsorb not only the drug but also lactates, helping to reduce and resolve severe metabolic acidosis.