CONTINUOUS VENOUS-VENOUS HEMODIAFILTRATION IN THE NEWBORN: CASE REPORT

OBJETIVE:

Describe our experience in renal replacement therapy with continuous veno-venous hemodiafiltration in a neonate with acute AKIN III renal injury.

ABSTRACT

We report one case of septic and cardiogenic shock, With acute renal injury in anuria without response to diuretic and aminophylline treated with continuous hemodiafiltration.The CCRT was performed using Prisma or Prismaflex (Gambro Healthcare, Lakewood, CO) machine, and we used: a 8-Fr Mahurkar catheter in the internal jugular vein and a special circuit for neonates. With creatinine in 3.36, hiponatremia, hyperkalemia, We conclude that CHDF is an extremely effective and safe treatment for fluminant neonatal-onset hyperammonemia due to metabolic disorders, Gasometry with mixed acidosis, patient with Acute Renal Injury AKIN III in anuria secondary to systemic hypoperfusion by both Heart Disease and High Frequency Ventilation, as well as severe systemic inflammatory response. It requires continuous renal replacement therapy in the 1form of continuous Venovenous Hemodiafiltration, which remains for 96 hours with satisfactory evolution. Concluding useful and efficient alternative, in neonates with severe renal injury, and hemodinamic inestability.

INTRODUCTION

Acute kidney injury represents an independent predictor of mortality in the NICU. and affects 6% to 24% of critically ill neonates. The medical management remains the mainstay of therapy, but whe this medical management fails the renal replacement therapy should be used to treat the acute kidney injury and its complications (metabolic acidosis, hyperkalemia, fluid overload, uremia, or encephalopathy). The Continuous renal replacement therapy (CRRT) has emerged as the modality of choice for the management of high-risk neonates with acute kidney injury and is also known to be useful for the removal of inflammatory mediators, including proinflammatory cytokines, chemokines, and complements.

CLINICAL CASE

Case of a 5-day-old newborn with the following antecedents: Mother of 32 years, hemotype O positive, with hypothyroidism in treatment, myopia, cataract and keratoconus; 42-year-old father, apparently healthy. Corresponds to second pregnancy, an spontaneous pregnancy, presents Gestational Diabetes at 32 weeks of gestation managed with diet.

Obtained from term at 38 weeks gestation with a weight of 2,880 gr and a height of 49cm, Apgar not referred, with basic resuscitation maneuvers. Patient presenting apparently transient tachypnea, without improvement so he stays hospitalized in the NICU. He has received feeding by forced technique 10 ml every 3 hours. He has not received immunizations. Denies diseases, traumatic, surgical, or allergic. Positive 2transfusion history without adverse reactions. He has been transfered in critical condition with mixed shock (septic and cardiogenic), with aminergic and ventilatory support 2fase III. With acute renal injury in anuria without response to diuretic and aminophylline, and persistent pulmonary hypertension of the newborn.

It has creatinine in 3.36, Schwartz of 6.6ml / min / 1.73m2s equivalent to 16% of renal function for age, 2hyperuricemia2 of 12.3mg/dl, hypertriglyceridemia of 257mg / dl, 2hiponatremia of 127meq / l, hyperkalemia of 6.2meq / l, corrected calcium of 7.8mg / dl, Gasometry with mixed acidosis, patient with Acute Renal Injury AKIN III in anuria secondary to systemic hypoperfusion by both Heart Disease and High Frequency Ventilation, as well as severe systemic inflammatory response. Given the data of fluid2 overload as well as metabolic alterations, it requires continuous renal replacement therapy in the 2form of continuous Venovenous Hemodiafiltration prior to placement of vascular catheter, which remains for 96 hours with satisfactory evolution, biochemicals prior to withdrawal of Gasometry therapy in acid balance base, Cystatin C 0.8 TFG 77ML / MIN / 1.73M2S creatinine 0.4mg / dl, decreased uric acid to 1.2mg / dl , Patient with a good prognosis for life and renal function that leaves home without complications.

DISCUSSION

Hemodiafiltration can be a useful and efficient alternative, in the control of hydraulic overload with hemodynamic and respiratory repercussion coupled with metabolic alterations in critically ill newborns with acute renal injury, it can also be used in those in which systemic inflammatory response coexists severe as in the case presented.

REFERENCES

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