

HEMOPERFUSION RATIONALITY OF ITS USE IN MISCELLANEOUS REGARDING A THYROID STORM CASE.

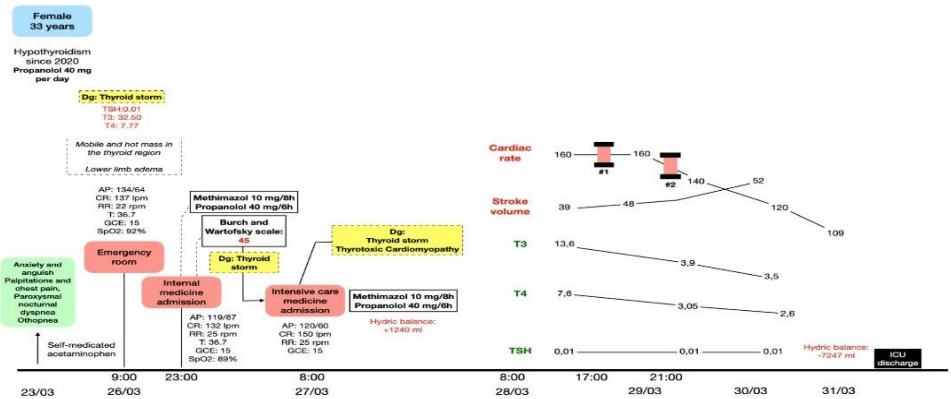
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Background: Thyrotoxicosis is a clinical state of inappropriately high levels of circulating thyroid hormones (T3 and/or T4) from any increased endogenous or exogenous source of TSH. The clinical presentation ranging from asymptomatic or subclinical, to life-threatening thyroid storm. Graves' disease is the most common cause with an incidence of 20 to 50 cases per 100,000 persons with male to female ratio of 5 to 1. 1% to 2% of patients go on to develop the serious complication of thyroid storm. Extracorporeal Therapy which as Dialysis, Plasmapheresis and Hemoperfusion have been used with the objective of accelerating the hormones plasmatic clearance. Its use is reserved for those patients with a poor response to conventional treatment and with significant clinical deterioration.

Methods: We present the case of a 33 years old female who is about 2 years of hyperthyroidism clinical picture, she was in propranolol 40 milligrams every day without any other information about the origin of the thyroid sickness. She was admitted at the emergency room where blood pressure was 134/65, heart rate of 137 beats/min, 22 breaths/min and 36.7°C, she keeps awake and oriented. Physical examination revealed a mobile, hot, painless mass in the anterior region of the neck and jugular engorgement. There were bilateral diffuse crackles. Pitting edema in lower limbs. Test results showed TSH: 0.01 mUI/L, T3: 32.50 nmol/L, T4: 7,75 ng/dL. So was admitted by internal Medicine by the diagnose of thyroid storm, Burch and Wartofsky scale 45 points. Methimazole started with 10 mg every 8 hours and then it continuous with propranolol 40 mg every 6 hours. Because of tachycardia persistence and dyspnea increase, she was transfer to ICU, in the initial evaluation, global myocardial dysfunction associated with a VEXUS III pattern was found. She maintained hemodynamic stability without the need for inotropes or vasopressors. However, based on the poor response to pharmacological measures to control heart rate, atrial flutter development and congestive heart failure persistence, it was decided to perform hemoperfusion with HA 230 Jafron cartridge, 2 sessions of 6 hours duration are carried out with an interval of 24 hours, blood flux 300 ml/min.

Results: A substantial reduction in the level of thyroid hormones was observed after extracorporeal therapy associated with a favorable clinical response. Sustained control of heart rate and recovery of stroke volume to adequate ranges was achieve. She stayed four days in ICU. Finally, she was discharged with BP: 130/65, HR: 100/min, RF: 20/min, SpO2: 92% with no evidence of pulmonary congestion or organ failure. We showed the clinical and treatment evolution in Fig 1.



Conclusion: T4 (776.87 g/mol) is 70% bound to TBG, to albumin by 20% and to TTR by 10%. T3 joins mainly to TBG (80%), and the rest to albumin and TTR. But since T4 binds to proteins plasma cells with an affinity 10 times greater than that T3 your metabolic clearance rate is slower and half-life is longer (7 days) than T3 (less than 24 hours). Hemoperfusion with Jafron HA 230 cartridge, demonstrated an excellent and effective treatment option for thyroid storm that threatens the patient's life, especially when first-line drug treatment has failed. Its usefulness in a type of endogenous poisoning is evidenced.



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