EVALUATION OF THE USE OF HYDROCORTISONE, VITAMIN C AND THIAMINE FOR THE TREATMENT OF SEPTIC SHOCK

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BACKGROUND

The combination of **thiamine / vitaminC / hydrocortisone** has recently emerged as a adjunctive therapy for patients with **septic shock** (SS)

AIM AND OBJECTIVES

To evaluate the use of the combination as a complementary treatment for septic shock

MATERIAL AND METHODS

Retrospective, observational and cohort study

Critically ill patients diagnosed of septic shock

cohort A — Standard therapy

cohort B — Standard therapy + Cocktail

Intensive fluid
Empirically broad-spectrum antibiotic
Prevention of vein thrombosis
Vasopressor therapy

Cocktail: Vitamin C, Thiamine, Hydrocortisone

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Variables

Demographic Age, Gender

Clinical Comorbidities, SAPS-III, origin of sepsis, mechanical ventilation, ECMO, baseline procalcitonin, acute renal failure, blood culture positive

Therapeutic dosage, duration of combination

30-day mortality and **length of stay**

Vitamin C

1.5g / 6h	62.5 %
1 g / 6h	16.1 %
1 g / 24h	16.1 %
0.5 g / 24h	5.3 %

Thiamine

200 mg / 12h	55.4 %
100 mg / 24h	26.8 %
100 mg / 12h	17.8 %

Hydrocortisone

50 mg / 6h	53.6 %
100 mg / 8h	46.4 %

23 (39%)

Treatment duration
3 (1-26) days

Time delayed prescription
Uppon admission: 80.7%
11 patients: 7 (2-16) days

RESULTS

		n= 59 cohort A	n= 56 cohort B	p
Age	median (IQR)	64.54 (57.60-75.40)	64.41 (57.00-73.16)	0.883
Female gender	n (%)	26 (44%)	29 (34%)	0.340
SAPS3	median (IQR)	67 ((57-81)	72 (58-83)	0.450
PCT	median (IQR)	15.61 ((5.12-69.7)	17.05 ((3.05-44.57)	0.442
Immunosuppression	n (%)	18 ((30.51%)	27 ((48.21%)	0.043 *
Diabetes mellitus	n (%)	21 ((35.59%)	17 ((30.36%)	0.692
Hypertension arterial	n (%)	34 ((57.63%)	30 ((53.57%)	0.850
Chronic heart disease	n (%)	17 ((28.81%)	16 ((28.57%)	1.000
Onco-haematological malignancy	n (%)	16 ((27.12%)	17 ((30.36%)	0.648
Blood culture positive	n (%)	31 ((52.54%)	27 ((49.09%)	0.851
Renal replacement therapy	n (%)	16 ((27.12%)	27 ((48.21%)	0.019 *
ECMO	n (%)	1 ((1.69%)	2 ((3.57%)	0.609
Mechanical ventilation need	n (%)	19 ((32.20%)	31 ((56.36%)	0.014 *
Mechanical ventilation duration	median (IQR)	0 ((0-1)	5 ((2-10.5)	0.056
Vasopressor therapy duration	median (IQR)	2 ((1-4)	2 ((1.5-4.5)	0.374
ICU-length of stay	median (IQR)	4 ((2-7)	6 ((3-14.5)	0.025 *
30-day mortality	n (%)	19 ((32.20%)	20 ((35.71%)	0.699

CONCLUSION

To add hydrocortisone/vitamin/thiamine to the standard treatment **not reduces the mortality, LOS or duration of vasopressors**. However, there is a tendency to treat the most vulnerable patients (immunosuppressed patients, refractory sepsis and RRT). Variable dosage was used, so that as a result of the study, **a protocol was elaborated** in the Unit to standardize the combination use.