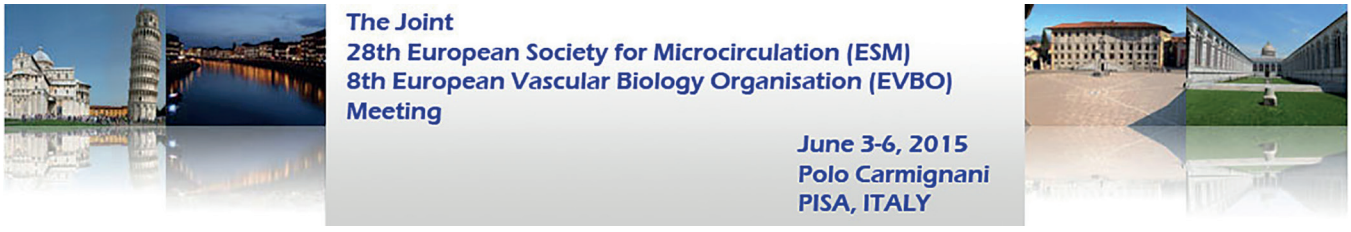


■ Carlota Saldanha e Gregorio Caimi organizaram 3.º Simpósio **"Hemorheology and microcirculation: the main mechanisms of interaction"** que ocorreu no Joint Meeting of the European Society for Microcirculation (ESM) and European vascular Biology Organization (EVBO). A Fundação para a Ciência e Tecnologia financiou este evento.

■ Carlota Saldanha além de moderadora apresentou o trabalho intitulado "**Hemorheological and Biochemical Parameters in Amyotrophic Lateral Sclerosis"** em co-autoria de Susana Pinto[2], Ana Catarina Pronto-Laborinho[2], Maria do Amparo Barros[2], Teresa Freitas[1], Mamede de Carvalho[2,3]

[1] Instituto de Bioquímica, Instituto de Medicina Molecular Faculdade de Medicina da Universidade de Lisboa.
[2] Instituto de Fisiologia, Instituto de Medicina Molecular Faculdade de Medicina da Universidade de Lisboa.
[3] Departamento de Neurociências. Hospital de Santa Maria. Lisbon. Portugal

Abstract

Amyotrophic lateral sclerosis (ALS) is a progressive, fatal disorder caused by dysfunction and degeneration of motor neurons. It is the third most common neurodegenerative disease, with a prevalence of 6-8/100 000. The diagnosis relies on clinical observation and neurophysiological studies; no molecular biomarker is currently available. Classical papers have described increased plasma content of acetylcholinesterase released by motor-endplates, but no recent results have been published.

Aims – We aimed to compare the hemorheological and biochemical profile in patients with ALS with a healthy control group.

Methods – Thirty nine patients and nineteen healthy controls were included in the study, their blood samples were taken after formal consent. Biochemical and hemorheological variables were analyzed, including, nitric oxide (NO) efflux from erythrocyte and its nitrosogluthatione (GSNO), nitrite and nitrate content, erythrocyte acetylcholinesterase (AChE), erythrocyte aggregation, and erythrocyte deformability

Results – Significantly higher levels of erythrocyte AChE and lower levels of GSNO, nitrites and nitrates were observed in ALS patients when compared with the control group. No significant differences were obtained in nitric oxide efflux from erythrocyte or in its aggregation, while higher value of erythrocyte deformability was verified.

Conclusions – The results of the present study indicate that erythrocyte may contribute to control de NO bioavailability at microcirculatory level presenting favourable deformability in a dysfunctional endothelium associated with the disease. Erythrocyte acetylcholinesterase should be further explored as a potential biomarker for ALS.

■ No programa "Joint Meeting of the European Society for Microcirculation (ESM) and European vascular Biology Organization (EVBO)" houve sessões de apresentações orais

Carlota Saldanha apresentou "Hemorheological and Sublingual Microcirculation Profiles in Patients with Sepsis tendo como co-autores Ekaterina Potapova[1], Inês Oliveira[1],Patricia Napoleão[1], Antonio Messias[2].

[1] Instituto de Medicina Molecular Faculdade de Medicina da Universidade de Lisboa Portugal.
[2] Intensive Care Department, Hospital Beatriz Ângelo, Loures, Portugal
A Fundação para a Ciência e Tecnologia patrocinou parte da participação de Carlota Saldanha

Abstract

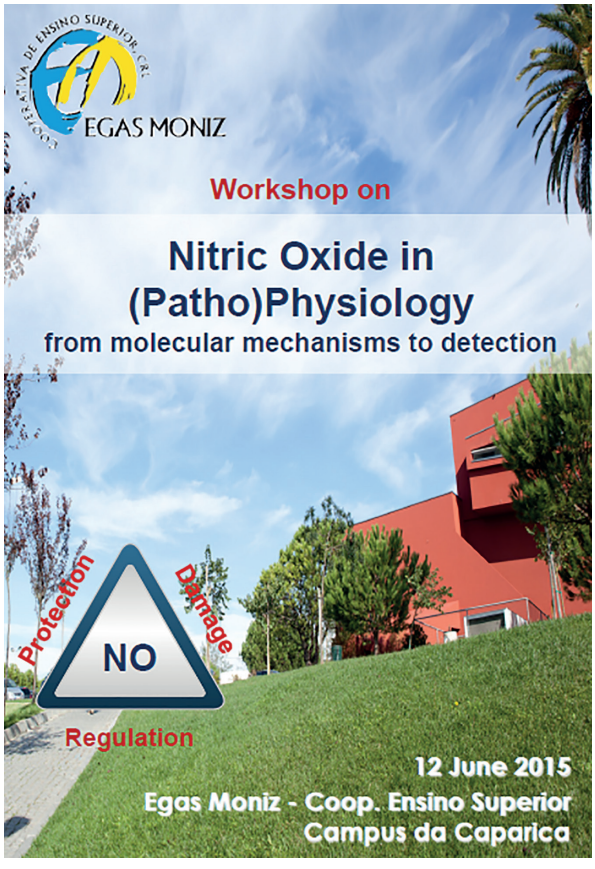
In sepsis inducible nitric oxide synthase is over expressed in dysfunctional endothelial cells originating microcirculatory elevation of nitric oxide (NO) concentrations. Dysfunctional blood cell and endothelial cells underlie in sepsis impair microcirculation of oxygen delivery to tissues. Sidestream Dark Field (SDF) imaging's of the sublingual microcirculation brought microvascular imaging's and hemodynamic data to the bedside.

Aims – We aimed to study the hemorheological and sublingual microcirculation longitudinal profiles in patients with sepsis.

Methods – Fourteen septic patients were monitories during Intensive Care Unit (ICU) stay. Blood samples were taken at ICU admission, 24 and 72 hours later, and at ICU discharge for hemorheological parameters (erythrocyte deformability (ED) and aggregation) and NO efflux from erythrocyte determinations. SDF evaluation was also performed.

Results – Four patients died while being treated at the UCI. Higher levels of ED were observed in 0.6 Pa in patients that were dead from 24 hours. Dead patients at 24 hours present higher levels of NO efflux from erythrocytes than survivors. The microvascular flow index is lower in the dead septic patients with major heterogeneity index than those values obtained in survivors.

Conclusions – The results highlight that microvascular flow index, the ED and the bioavailability in NO are good biomarkers and potential therapeutically targets for increase the survivor rate in ICU.



Program

09:15-10:00 New concepts in nitric oxide formation and function
Alan Schechter | NIH

10:00-10:30 Neurovascular coupling: the role of neuronal-derived nitric oxide and nitrite
João Laranjinha | FFUC | CNC

10:30-11:00 Human erythrocyte nitric oxide in healthy and disease
Carlota Saldanha | IMM| FMUL

Coffee break

11:15-11:45 Nitric oxide and neurogenesis: identification of S-nitrosation targets
Inês Araújo | UAlg

11:45-12:15 Is inflammation in the genesis of dysmetabolism?
Paula Macedo | FCM-UNL |CEDOC

12:15-13:00 Control of disease tolerance to malaria by nitric oxide and carbon monoxide
Susana Ramos | IGC

13:00-13:30 To be announced
Carmen Brás Silva | FMUP