

## **ELEIÇÕES PARA ÓRGÃOS SOCIAIS DA SPHM**

No dia 17 de Novembro de 2014 decorreram, em Assembleia Geral, as eleições para os Órgãos Sociais da Sociedade Portuguesa de Hemorreologia e Microcirculação, biénio de 2014-2016.

Após se ter procedido à contagem dos votos, comprovou-se que a única lista concorrente foi aprovada por unanimidade, tendo sido apurados os seguintes resultados: 15 votos a favor, zero votos brancos e zero votos nulos.

A lista eleita é constituída pelos seguintes membros:

### **Direcção**

Presidente: Prof.<sup>a</sup> Doutora Maria Carlota Saldanha Lopes

Vice-Presidente: Dr. José António Pereira Albino

Secretário-geral: Prof. Doutor Flávio Reis

Tesoureira: Dr.<sup>a</sup> Ana Santos Silva Herdade

Secretários-adjuntos: Prof.<sup>a</sup> Doutora Alice Santos Silva, Dr. Mário Manuel M. G. Marques e Dr. Luís Sargento

### **Assembleia Geral**

Presidente: Prof. Doutor J. M. Braz Nogueira

1.º Secretário: Prof. Doutor Luís Mendes Pedro

2.º Secretário: Prof. Doutor Henrique Sobral do Rosário

1.º Secretário suplente: Dr.<sup>a</sup> Sandra Maria Maurício Hilário Pires

2.º Secretário suplente: Dr. Paulo Ferreira da Silva

### **Conselho Fiscal**

Presidente: Prof. Doutor João Eurico Fonseca

1.º Vogal: Dr.<sup>a</sup> Maria Helena Baptista Manso Ribeiro

2.º Vogal: Dr. Carlos Manuel dos Santos Moreira

### **Comissão de Delegados**

Delegado da Região Norte: Dr. Manuel Campos

Delegado da Região Centro: Dr. João Morais

Delegado da Região Sul e Regiões Autónomas: Dr. Mário Marques

## **PARTICIPAÇÃO NACIONAL EM CONGRESSOS DE HEMORREOLOGIA E MICROCIRCULAÇÃO**

(1) Workshop “**Repercussions in eye microcirculation of patients with systemic vascular disease**”, que ocorreu no 4th International Conference on Clinical & Experimental Ophthalmology July 14-16 July Baltimore, USA, foi organizado por Carlota Saldanha e Paulo Leal Filipe. A Fundação Luso- Americana patrocinou parte da participação de Carlota Saldanha.

### **Abstract:**

#### **“Repercussions in eye microcirculation of patients with systemic vascular disease”**

*Paulo Filipe & Carlota Saldanha*

Associations between systemic vascular disease parameters and their repercussions in ocular blood flow velocities which will be analysed

There is an important link between skin and eye not always perceptible to dermatologists and ophthalmologists, much less the fact that many cutaneous diseases course with ocular manifestations. These may range from the relatively frequent diseases such as acne rosacea, allergic diseases like contact eczema and atopic dermatitis with its associated chronic eye lid and conjunctival inflammation, to the profoundly vision-threatening ocular consequences of ichthyoses, pemphigoid, Stevens Johnson syndrome, pseudoxanthoma elasticum, infectious conditions including ophthalmic herpes zoster and periorbital cellulitis. Even some types of skin cancer may involve the eyelid. Moreover, some drugs used in Dermatology namely antimalarials, corticosteroids and photosensitizers, may induce ocular adverse events implicating ophthalmologic examination on a regular basis.

(2) Comunicação do trabalho “**Fibrinogen effects on erythrocyte nitric oxide mobilization in presence of timolol**”, apresentado por Carlota Saldanha no Workshop Ocular Microbiology/ Immunology”, do 4th International Conference on Clinical & Experimental Ophthalmology, July 14-16 July Baltimore, USA. A Fundação Luso-Americana patrocinou parte da participação de Carlota Saldanha.

**Abstract:**

**“Fibrinogen effects on erythrocyte nitric oxide mobilization in presence of timolol”**

*C Saldanha\**, *R Esteves*, *L Zabala*, *T Freitas*, *P Teixeira*, *P Napoleão*,  
*Ana S Silva-Herdade*

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**Aims:** The objectives of this study were to evaluate the effects of high fibrinogen concentration on erythrocyte mobilization of nitric oxide (NO) and of its metabolites in presence of timolol in healthy human blood samples.

**Main Methods:** Levels of NO was evaluated by amperometric method. Nitrite, nitrate and S-nitrosoglutathione (GSNO) were measured using the spectrophotometric Griess reaction.

**Key findings:** In the presence of high concentrations of fibrinogen and timolol (10µM) in the blood samples from healthy humans the erythrocyte nitrites, nitrates and GSNO concentration increased without significant changes in NO efflux. Erythrocyte scavenging NO property was preserved in the presence of timolol and high fibrinogen levels.

**Significance:** These results suggest that during in inflammation when high levels of fibrinogen are present, NO delivery by erythrocytes might be compromised that acts as a compensatory mechanism against the overproduced NO by endothelial inducible nitric oxide synthase.

**Keywords:** erythrocyte nitric oxide, S-nitrosoglutathione, fibrinogen

(3) O trabalho “**Fibrinogen signalling in erythrocyte nitric oxid mobilization in presence of PI3-K and adenylyl cyclase inhibitors**” foi apresentado no XXIIIrd International Fibrinogen Workshop 9-11 July 2014, Marseille, France, por Carlota Saldanha. Esta participação teve o apoio da Fundação para a Ciência e Tecnologia.

**Abstract:**

**Fibrinogen Signalling in Erythrocyte Nitric Oxide Mobilization in Presence of PI3-K and Adenylyl Cyclase Inhibitors.**

*Saldanha C, Freitas T, Herdade AS., Lopes de Almeida JP*

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Fibrinogen is a plasma protein that beyond its hemostatic function behaves as an acute phase protein and as a hemorheological factor. The erythrocyte hyperaggregation state induced by fibrinogen occurs in various metabolic and vascular diseases Soluble form of fibrinogen binds to erythrocyte CD47. Soluble thrombospondine binds erythrocyte CD47 in a sequence peptide known as 4N1K. Fibrinogen reinforces the ability of erythrocyte to scavenger nitric oxide (NO).

However hiperfibrinogenemia induced in vitro increased erythrocyte NO efflux in dependence of band 3 phosphorylation degree. When in presence of the CD47 agonist peptide, 4N1K, and at hiperfibrinogenemia a variation was observed in erythrocyte NO mobilization.

The aim of this work was to study the effect of fibrinogen, on the erythrocyte NO mobilization under influence of PI3-K and adenylate cyclase inhibitors in absence and presence of CD47 agonist peptide, 4N1K

In this in-vitro study, whole blood samples were harvested from healthy subjects and NO, peroxy nitrite, nitrite, nitrate and S-nitroglutathione (GSNO) were determined in presence of 4N1K, wortmannin (PI3-K inhibitor), MDL (adenylyl inhibitor) and under high fibrinogen concentrations. The results obtained, when 4N1K is present with wortmannin in presence of high fibrinogen levels show, in relation to control, (1) no variations on the levels the erythrocyte NO efflux; (2) increased concentrations of nitrite ( $p < 0.0001$ ) and nitrate ( $p < 0.0001$ ) and GSNO concentrations ( $p < 0.001$ ). Regarding the values peroxy nitrite they are decreased ( $p < 0.005$ ), both to control to samples with fibrinogen plus wortmannin

The results obtained, when 4N1K is present MDL in presence of high fibrinogen levels show, in relation to control, (1) no variations on the levels the erythrocyte NO efflux; (2) increased concentrations of nitrite ( $p < 0.001$ ) and nitrate ( $p < 0.001$ ) and GSNO concentrations ( $p < 0,001$ ). Regarding the values of GSNO they are increased ( $p < 0.005$ ) in relation to samples with MDL plus fibrinogen.

In conclusion, under fibrinogen stimulus, the presence of 4N1K peptide reinforce in the erythrocyte GSNO, nitrite and nitrate levels, decreasing peroxynitrite concentration and preserving their scavenger NO ability in absence and presence of PI3K inhibitor.

Under fibrinogen stimulus, the presence of 4N1K peptide reinforce in erythrocyte the efflux of NO, GSNO, nitrite and nitrate levels in presence of the adenylyl cyclase inhibitor. Lower levels of cAMP favours in erythrocyte the efflux of NO under fibrinogen, 4N1K and MDL stimuli.

In conclusion fibrinogen induces erythrocyte NO mobilization independent of PI3-K and adenylate cyclase inhibitors that is unchanged by the presence CD47 agonist peptide, 4N1K.

The ability of erythrocyte to scavenger NO is not changed by PI3-K or adenylate cyclase even in absence or presence of 4N1K.

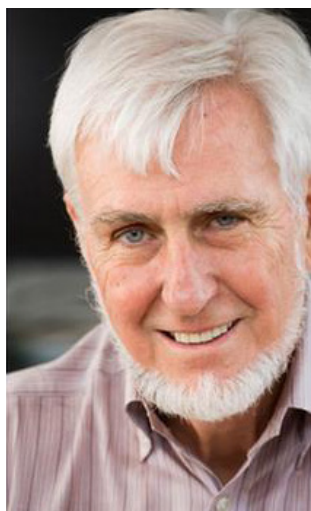
## PRÉMIO NOBEL DE MEDICINA/2014

The Nobel Assembly at Karolinska Institutet, por comunicação divulgada no dia 6 de Outubro passado, decidiu atribuir aos neurocientistas John O'Keef, May-Britt Moser e Edward Moser o Prémio Nobel em Medicina de 2014, pelos trabalhos que desenvolveram em células nervosas intervenientes na orientação espacial cerebral. Metade do valor do prémio foi concedida a John O'Keef, sendo a restante partilhada pelo casal May-Britt Moser e Edward Moser.

John O'Keef (natural de Nova Iorque, 1939) é professor em Institute of Cognitive Neuroscience, Department of Anatomy, University College London. May Britt Moser (natural de Fosnavåg, 1963), psicóloga, fundou e dirige o Kavli Institute for Systems Neuroscience and Centre for the Biology of Memory, Norwegian University of Science and Technology, Trondheim. Edward Ingjald Moser (natural de Ålesund, 1962) é psicólogo, neurocientista e director do Kavli Institute for Systems Neuroscience and Centre for Neural Computation, Norwegian University of Science and Technology.

John O'Keef identificou os primeiros componentes daquele sistema de orientação cerebral no hipocampo de ratos, em 1971. Através dos sinais eléctricos gerados por células individualizadas, verificou que determinadas células “denominadas “células de lugar”, estavam activas quando se encontravam em determinado posicionamento na região.

Por seu lado, May-Britt (natural de e Edward Moser descobriram, em 2005, que células do córtex entorrinal (adjacente ao hipocampo), eram activadas quando os ratos passavam rapidamente por determinados locais dispostos em grelha hexagonal. Concluíram que as “células de lugar” actuavam em conjunto com as de “grelha”, constituindo um sistema cerebral de posicionamento espacial. Admite-se que estes resultados possam explicar os sintomas iniciais da doença de Alzheimer, atribuídos a lesões celulares precoces no córtex entorrinal.



John O'Keef



May-Britt Moser



Edward Ingjald Moser

## **PRÓXIMAS REUNIÕES INTERNACIONAIS**

### **4th Micro and Nano Flows Conference, MNF2014**

September 7-10, 2014, University College London

### **15th International Congress of Biorheology and 8th International Conference on Clinical Hemorheology**

May 24-28, 2015, Seoul, Korea

Please visit the official web site for this conference at <http://isb-isch2015.org> for further details.

### **18th European Conference on Clinical Hemorheology and Microcirculation**



Lisboa vai receber, em 2016, a 18th European Conference on Clinical Hemorheology and Microcirculation. O evento será organizado pela Sociedade Portuguesa de Hemorreologia e Microcirculação.

Contacto:

<http://www.hemorreologia.com/>

Secretariado: Leading  
[eschm2016@leading.pt](mailto:eschm2016@leading.pt)

## **OUTRAS INFORMAÇÕES**

### **Perspectivas da Hemorreologia na Wikipedia**

<http://en.wikipedia.org/wiki/Hemorheology>

### **Clinical Hemorheology and Microcirculation**

Jornal oficial das Sociedades Científicas de Hemorreologia

<http://www.iospress.nl/journal/clinical-hemorheology-and-microcirculation/>