BOOK OF ABSTRACTS

TITLE
Book of Abstracts of the XX EuroFoodChem Congress

EDITORS
M. Beatriz P.P. Oliveira, Joana S. Amaral, Manuel A. Coimbra

EDITION
Sociedade Portuguesa de Química
Av. Da República, 45 – 3º Esq
1050-187 Lisboa – Portugal

DATE
June 2019

ISBN

ISBN 978-989-8124-26-5

XX EUROFOODCHEM CONGRESS

Scientific Committee

M. Beatriz Oliveira (Portugal)
Manuel A. Coimbra (Portugal)
Marco Arlorio (Italy) – Chair, EuChemS FCD
Joana Amaral (Portugal) – Secretary, FCD-EuChemS
Michael Murkovic (Austria) – Treasurer, EuChemS FCD
Hans-Jacob Skarpeid (Norway)
Juana Frias (Spain)
Livia Simon Sarkadi (Hungary)
Tanja Dcirkovic Velickovic (Serbia)
Vieno Piironen (Finland)
Vincenzo Fogliano (The Netherlands)

Organizing Committee

M. Beatriz Oliveira (Portugal) – University of Porto
Manuel A. Coimbra (Portugal) – University of Aveiro
Joana Amaral (Portugal) – Polytechnic Institute of Bragança, FCD-EuChemS

Congress organized under the auspices of the Food Chemistry Division of the European Chemical Society (FCD-EuChemS) and the Portuguese Chemical Society (SPQ).

EuChemS
European Chemical Society
Division of Food Chemistry

Sociedade Portuguesa de Química

ORAL COMMUNICATIONS

Functional Foods

Administration of *Castanea sativa* flowers extract in Wistar rats

Elisabete Nascimento-Gonçalves[1,2]*, Fernanda Seixas[1,3], Margarida Fardilha[4], Rita Ferreira[5], Maria João Neuparth[6,7], Ana I. Faustino-Rocha[2,8], Eduardo Rosa[2], Bruno Colaço[2,9], Isabel C.F.R. Ferreira[10], Paula A. Oliveira[1,2]

[1]Department of Veterinary Sciences, University of Trás-os-Montes and Alto Douro (UTAD), Vila Real, Portugal; [2]Center for the Research and Technology of Agro-Environmental and Biological Sciences (CITAB), UTAD, Vila Real, Portugal; [3]Animal and Veterinary Research Center (CECAV), UTAD, Vila Real, Portugal; [4]Laboratory of Signal Transduction, Institute for Research in Biomedicine, Medical Sciences Department, UA, Aveiro, Portugal [5]Organic Chemistry, Natural Products and Food Stuffs (QOPNA), Aveiro, Portugal, [6]Advanced Polytechnic and University Cooperative (CESPU), Institute of Research and Advanced Training in Health Sciences and Technologies (IINFACTS) Gandra, Portugal, [7]Research Center in Physical Activity, Health and Leisure (CIAFEL), Faculty of Sports,University of Porto, Porto, Portugal, [8]Faculty of Veterinary Medicine, Lusophone University of Humanities and Technologies, Lisbon, Portugal, [9]Animal Science Department, UTAD, Vila Real, Portugal, [10]Centro de Investigação de Montanha (CIMO), Instituto Politécnico de Bragança, Portugal
** elisabete.nascimento.g@gmail.com*

Castanea sativa Mill. flowers (CF) are reported by ancestral claims as having health benefits like mucolytic, antispasmodic and anti-dysenteric properties and, in vitro studies showed anticancer properties against breast, colon, cervical and hepatocellular carcinomas [1].
The aim of this work was to study the effect of chestnut flowers (CF) extract on rat's physiological parameters. Fifteen male Wistar Unilever rats were randomly divided into two groups: untreated control, n=10, and CF group, n=5. Animals from CF group were exposed to the chestnut flowers extract in drinking water (20 mg/animal/day) for 49 weeks. Body weight, food and drink consumption were measured weekly. At necropsy, all organs were collected, weighed and liver and kidney were processed for histological analysis. Animals from CF group showed a mean final body weight and a food consumption higher than untreated animals ($p>0.05$). Animals from CF group showed lower consumption of water ($p=0.000$). Relative mean liver weight from animals treated with CF was higher than untreated animals ($p=0.026$) and presented more liver degeneration. However, liver inflammatory infiltrate was reduced ($p=0.026$) in animals exposed to CF extract. There were no significant differences in relative mean kidney weight among groups. Untreated animals developed 50% of discrete proteinuria and CF treated animals developed 20%. Serum levels of albumin, total protein, glucose and alanine aminotransferase did not show significant differences between experimental groups.
These results suggest that chestnut flowers extract was well tolerated by the animals, did not cause hepatic and kidney toxicity and had no effect on biochemical profile. Further studies are necessary to evaluate in vivo, the effect of different CF doses and evaluate the respective potential use.

Acknowledgments: This work was supported by European Investment Funds by FEDER/ COMPETE/POCI - Operational Competitiveness and Internationalization Programme, under Project POCI-01-0145-FEDER006958 and National Funds by FCT - Portuguese Foundation for Science and Technology, under the project UID/AGR/04033/2013, UID/AGR/00690/2013, UID/AGR/0433/2019, UID/AGR/00690/2019, PTDC/DES/114122/2009 and the project PTDC/DTP-DES/6077/2014 and post-graduation grant SFRH/BD/136747/2018. **Funding:** Interreg Program for the financial support of the Project IBERPHENOL, Project Number 0377_IBERPHENOL_6_E, co-financed by European Regional Development Fund (ERDF) through POCTEP 2014-2020."

References:

[1] M. Carocho, L. Barros, A. Bento, C. Santos-buelga, P. Morales, I.C.F.R. Ferreira, Biomed Research International, 2014