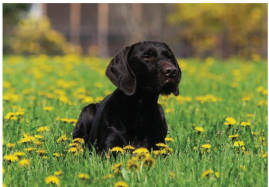




OCTOBER 5TH - 7TH 2017 • ZAGREB • CROATIA



7TH INTERNATIONAL CONGRESS "VETERINARY SCIENCE AND PROFESSION"

BOOK OF ABSTRACTS

7TH
INTERNATIONAL
CONGRESS

“VETERINARY SCIENCE AND PROFESSION”

//// OCTOBER 5TH - 7TH 2017 ////

//// ORGANIZER

University of Zagreb
Faculty of Veterinary Medicine

ORGANIZING COMMITTEE

President

Zoran Vrbanac

Vice-presidents

Nika Brkljača Bottegaro
Nevijo Zdolec

LOCAL ORGANIZING COMMITTEE

Damir Agičić, Jasna Aladrović, Iva Benvin, Diana Brozić, Ivan Forgač,
Anđelko Gašpar, Alen Hrastnik, Maja Lukač, Nino Maćešić, Mario Ostović,
Nikica Prvanović - Babić, Lada Radin, Nevenka Rudan, Krešimir Severin,
Magda Sindičić, Zrinka Štritof, Jelena Šuran, Ivana Tlak Gajger,
Ivan Vlahek, Lana Vranković, Ivona Žura Žaja, Slavko Žužul

INTERNATIONAL ORGANIZING COMMITTEE

Sanja Aleksić-Kovačević, Tibor Bartha, Otto Doblhoff-Dier, Nihad Fejzić,
Andrej Kirbiš, Danijela Kirovski, Vanja Krstić, Jana Mojžišova, Lazo
Pendovski, Vladimir Petkov, Foteini Samartzi, Muhamed Smajlović, Breda
Jakovac Strajn, Martin Tomko, Igor Ulčar, Gorazd Vengušt, Petra Winter,
Petra Zrimšek

SCIENTIFIC COMMITTEE

Goran Bačić, Ljubo Barbić, Željko Cvetnić, Tomislav Dobranić, Petar Džaja,
Martina Đuras, Anamaria Ekert Kabalin, Željko Grabarević, Juraj Grizelj,
Andrea Gudan-Kurilj, Boris Habrun, Danijela Horvatek Tomić,
Dean Konjević, Josip Kos, Josip Madić, Alemka Markotić, Dražen Matičić,
Vesna Matijatko, Zoran Milas, Marko Samardžija, Alen Slavica, Nenad Turk,
Romana Turk, Tatjana Vilibić-Čavlek, Ksenija Vlahović

Cataloguing-in-Publication data available in the Online Catalogue of the National and University Library in Zagreb under CIP record 000973547.

ISSN 978-953-8006-13-5

All abstracts published in this Book of Abstracts have been reviewed by an international scientific board.

ANALGESIC ACTIVITY AND MECHANISM OF ACTION OF THE MONOTERPENE p-CYMENE IN THE RAT MODEL OF INFLAMMATORY PAIN

Mirjana Milovanović, Đorđe S Marjanović, Saša M Trailović

Department of Pharmacology and Toxicology, Faculty of Veterinary Medicine, University of Belgrade, Serbia

p-Cymene is a monoterpene phenol, an active ingredient of essential oils extracted from various plants (Cumin, Thyme...). In addition to its anti-inflammatory and anti-oxidant activities, the analgesic activity of p-Cymene has recently been considered..

The aim of this study was to examine the analgesic effect of p-Cymene, and to compare it with the same effect of standard analgoantipyretic diclophen, and especially to examine the possibility of the interaction of p-Cymene and non-selective and selective NO-synthase inhibitors L-NAME and aminoguanidine (AG) on carrageenan-induced hypernociception in female rats.

Inflammatory pain (hypernociception) was induced by intraplantar (i.pl.) administration of carrageenan (500µg) into the rat hind paw. Electronic von Frey apparatus (ELUNIT, Belgrade) was used to determine paw withdrawal threshold induced pressure as the painful stimulus, and the effect was measured in grams (g).

p-Cymene (5-50 mg/kg,p.o.), given 50 min before i.pl. injection of carrageenan, produced significant ($p<0.01$, $p<0.001$) dose-dependent antinociception. p-Cymene (25 mg/kg,p.o.) and diclophen (10 mg/kg,p.o.) exhibited a similar antinociceptive activity in intensity and duration. p-Cymene (5 mg/kg,p.o.) coadministered with L-NAME or AG (5 mg/kg and 0.3 mg/kg,i.p.) caused a significantly higher ($p<0.01$, $p<0.001$) antinociceptive effect compared to the effect of p-Cymene alone. Also, in the presence of NO donor L-arginine (10 mg/kg,i.p.) the antinociceptive effect of the combination of p-Cymene + L-NAME and p-Cymene + AG, showed significant attenuation ($p<0.05$, $p<0.01$, $p<0.001$) throughout the whole measurement (1-6 hours).

p-Cymene leads to a dose-dependent antinociceptive effect in carrageenan-induced hypernociception, with intensity and duration similar to the antinociceptive effect of diclophen. p-Cymene, non-selective and selective NOS inhibitors (L-NAME and AG) administered together have a synergistic effect in carrageenan-induced hypernociception which is significantly reduced in the presence of L-arginine. On the basis of these results, we conclude that p-Cymene has analgesic activity based on the modulation of the L-arginine-NO system.