EuroSciCon

DAY 1

Keynote Forum

6th Edition of International Conference on

Pharmacognosy and Medicinal Plants

April 16-17, 2018 | Amsterdam, Netherlands

EuroSciCon

6th Edition of International Conference on

Pharmacognosy and Medicinal Plants

April 16-17, 2018
Amsterdam, Netherlands

Hari Shanker Sharma, Am J Ethnomed 2018, Volume 5
DOI: 10.21767/2348-9502-C1-004

SUPERIOR NEUROPROTECTIVE EFFECTS OF NANOWIRED DELIVERY OF CHINESE CELERY EXTRACT DL-3-N-BUTYLPHTHALIDE (DL-NBP) ON CONCUSSIVE HEAD INJURY

Hari Shanker Sharma

Uppsala University Hospital, Sweden

Concussive head injury (CHI) is quite common in military personnel during combat operation for which no suitable therapy exists till today. In this investigation, we report that nanodelivery of traditional Chinese medicine, DL-3-n-butylphthalide (DL-NBP) in CHI that was the most effective in reducing brain pathology in CHI if given 2 and 4 h after an 8 h injury or 8 and 12 h after 24 h trauma. Since CHI induces severe brain ischemia and oxidative stress, in this investigation we also examined the effects of TiO_2-DL-NBP on regional cerebral blood flow (CBF) and brain pathology in our rat model of CHI. CHI was inflicted by dropping a weight of 114.6 g on the right parietal skull bone over a distance of 20 cm in anesthetized rats resulting an impact of 0.224 N on the skull surface. This impact induces brain pathology from over 4 h to 24 h. In separate groups of injured animals, administration of TiO_2-nanowired-NBP (40 or 60 mg/kg, i.p.) 2h and 4 h after injury in 8 h survival group and 8 h and 12 h after trauma in 24 h survival group. In the untreated and treated groups, regional CBF (rCBF) in the cerebral cortex, hippocampus, thalamus, hypothalamus, cerebellum and brainstem was measured using [125]-Iodine labeled microspheres (15±0.6 µm o.d.). Untreated CHI resulted in a progressive increase in brain pathology, reduction in the rCBF (-30 to -50%) and development of brain edema formation. TiO_2-NBP resulted in significant improvement in rCBF in all brain areas examined. On the other hand, 80 to 100 mg/kg, dose of normal NBP is needed to induce comparable c reduction in rCBF and brain pathology in CHI. These observations show that nanodelivery of NBP has superior neuroprotective effects in CHI, a feature require additional investigation for clinical relevance.

Biography

Hari Shanker Sharma is the Director of Research (International Experimental Central Nervous System Injury & Repair, IECNSIR), University Hospital, Uppsala University; Professor of Neurobiology (MRC), Docent in Neuroanatomy (UU) and is currently affiliated with Department of Surgical Sciences, Division of Anesthesiology and Intensive Care Medicine, Uppsala University, Sweden. On his research on brain pathology and neuroprotection in different models, he received prestigious awards from The Laerdal Foundation of Acute Medicine, Stavanger, Norway, in 2005 and Distinguished International Scientists Collaboration Award (DISCA) by National Institute on Drug Abuse (NIDA), Baltimore, MD (2006–2008). His current research is focused on the role of nanoparticles in neurodegeneration and neuroprotection and nanodrug delivery for novel treatment strategies supported by European Aerospace Research and Development (EOARD), London, UK and US Air Force Research Laboratory, Wright Patterson Air Force Base, Dayton, OH, USA. He has published over 400 peer reviewed research papers (H-index 41).

Sharma@surgsci.uu.se

EuroSciCon

6th Edition of International Conference on

Pharmacognosy and Medicinal Plants

April 16-17, 2018
Amsterdam, Netherlands

Jamal Ouazzani, Am J Ethnomed 2018, Volume 5
DOI: 10.21767/2348-9502-C1-004

TASCMAR EU PROJECT — MARINE INVERTEBRATES AND ASSOCIATED-MICROORGANISMS, A GLOBAL SCIENCE FOR A GLOBAL VALORIZATION

Jamal Ouazzani

Institut de Chimie des Substances Naturelles, France

Coral reefs extend as deep as 150 meters and with the development of new technologies to go deeper, scientists are beginning to explore 'Mesophotic Coral Ecosystems' (MCEs) existing in low light levels, which still allows for photosynthesis. Mesophotic coral ecosystems (MCEs) are almost entirely unexplored; they are a treasure-trove for discovering new species and their associated bioactive chemical compounds. Organisms such as soft corals, sponges, and microbes living on coral reefs naturally produce potent cocktails of chemicals to defend themselves from competitors and harmful predators. EU-funded Horizon 2020 project TASCMAR, which aims to tackle major bottlenecks in the discovery, development, and commercialization of marine-derived chemical compounds with a specific focus on using new biological and chemical resources from MCEs. The project partners are working on developing innovative technologies for the sustainable cultivation of marine resources, e.g. through the isolation of chemicals in their natural environment without the need to harvest them. The project is specifically looking for new chemical compounds active against age-related illnesses such as Alzheimer's, Parkinson's, cancer, and aging diseases related to muscles and skin.

Recent Publications

1. Leman-Loubière C, Le Goff G, Retailleau P, Debitus C and Ouazzani J (2017) Sporothriolide-related compounds from the fungus hypoxylon monticulosum CLL-205 isolated from a Sphaerocladina sponge from the Tahiti Coast. J. Nat .Prod. 80(10):2850–2854.
2. Gallego A, Meton I, Baanante I V, Ouazzani J, Adelin E, et al. (2017) Viability-reducing activity of *Coryllus avellana* L. extracts against human cancer cell lines. Biomedicine & Pharmacotherapy 89:565–572.
3. Le Goff G, Adelin E, Arcile G and Ouazzani J (2017) Total synthesis of the antibiotic 4-hydroxycyclopent-2-en-1-one acrylate derivative EA-2801. Tetrahedron Letters 58:2337–2339.
4. Adelin E, Le Goff G, Retailleau P, Bonfill M and Ouazzani J (2017) Isolation of the antibiotic methyl (R,E)-3-(1-hydroxy-4-oxocyclopent-2-en-1-yl)-acrylate EA-2801 from trichoderma atroviridae. J. Antibiotics 70(11):1053–1056.
5. Ouazzani J, Benayahu Y and Trougakos I (2016) Seeking the fountain of youth in the twilight zone. The Marine Biologist 7:9–11.

Biography

Jamal Ouazzani completed his PhD in Applied Microbiology in 1988 from Paris XI University-France and obtained a research position at the National Center for Scientific Research (CNRS) in 1989 (www.cnrs.fr). Since 2014, he has held the position of CNRS Research Director within the Institute for Chemistry of Natural Compounds (ICSN, www.icsn.cnrs-gif.fr) and leads the ICSN Pilot-Unit (www.pilotunit.com). He has an interdisciplinary profile covering fundamental and applied microbiology, natural product chemistry, biochemistry, biocatalysis, bioremediation, innovative biotechnology design, building and implementation. He has been engaged in diverse consulting activities since 1996, for environmental, cosmetic and pharmaceutical companies. He has published more than 62 publications in peer-reviewed journals and has obtained nine patents. He collaborates with various companies in the field of ethno-pharmacology, bioactive natural compounds from plants, marine organisms and microorganisms, innovative extraction and bio-resource cultivation technologies.

jamal.ouazzani@cnrs.fr

EuroSciCon

DAY 2

Keynote Forum

6th Edition of International Conference on

Pharmacognosy and Medicinal Plants

April 16-17, 2018 | Amsterdam, Netherlands

EuroSciCon

6th Edition of International Conference on

Pharmacognosy and Medicinal Plants

April 16-17, 2018
Amsterdam, Netherlands

Aruna Sharma, Am J Ethnomed 2018, Volume 5
DOI: 10.21767/2348-9502-C1-004

NANODELIVERY OF CHINESE TRADITIONAL MEDICINE EXTRACT OF GINKGO BILOBA (EGB-761) INDUCES SUPERIOR NEUROPROTECTION IN HEAT STROKE

Aruna Sharma

Uppsala University, Sweden

Military personnel are often exposed to high summer heat resulting in heat stroke (HS) resulting in serious mental and physical consequences due to blood-brain barrier (BBB) breakdown, edema formation and brain pathologies. In this innovation, we used TiO_2 nanowired EGb-761 and BN-52021 to treat HS induced brain pathologies in model experiments. Rats were exposed to two hour HS daily for eight days in a biological oxygen demand (BOD) incubator that does not induce brain pathology. On the eighth day, the animals were subjected to a four hour additional HS, and brain pathology was examined. These animals exhibited profound BBB leakage to Evans blue and [131]-Iodine, brain edema 2–4-fold higher neuronal damages as compared sham treated naïve rats. Treatment with EGb-761 (50 mg/kg, p.o.) with BN-52021 (2 mg/kg, p.o.) daily, for five days reduced brain damage by 20 to 30% in HS. However, when TiO_2 nanowired EGb-761 or TiO_2 BN-52021 were administered in identical doses, more than 80% reduction in brain pathology was observed in HS. The functional outcome e.g., walking on a tilted mesh grid (45°C), staying on a Rota-Rod treadmill (16 r.p.m.) and finding placing of forepaw on a wire mesh were significantly improved by nanodelivery of EGb-761 and BN-52021. These observations suggest that nanodelivery of EGb-761 and BN-52021 in HS has a potential therapeutic value that requires further investigation.

Biography

Aruna Sharma is the Secretary of Research International Experimental Central Nervous System (CNS) Injury & Repair (IECNSIR), currently working at Uppsala University Hospital, Uppsala University, Sweden. She is a qualified Experimental Neurpathologist with training at Karl Marx University, Leipzig (1987-1988); Semmelweis University Medical School, Budapest (1988-1989), Free University Berlin, (1989-1991) and Neuropathology Institute Uppsala (1992-1995). She is focused on traditional Indian/Chinese medicinal drugs on the central nervous system function, toxicology, neurorepair and neuroprotection using nanotechnology. She earned the Top 15 Technology Award of 2016 at Global Innovation Summit & Showcase on her recent innovation on, "Neuroprotective effects of Nanowired delivery of cerebrolysin together with alpha melanocyte stimulating hormone (-MSH) in concussive head injury in sleep deprivation", US Government, Washington DC, May 22-25, 2016. She has published over 140 original research papers in reputed neuroscience journals with an H-index of 19 (ISI database, 143 citations) as of today.

Aruna.Sharma@surgsci.uu.se