



# The 1<sup>st</sup> International Neuroinflammation Congress and 1<sup>st</sup> Student Festival of Neuroscience

Shefa Neuroscience Research Center, Tehran, Iran, 11-13 April, 2017

*The Neuroscience Journal of Shefaye Khatam*

Volume 5, No. 2, Suppl 2

## Poster Presentation

### The Effect of Curcumin and Melittin on an Animal Model of MS

Masoomah Mohamadpour<sup>1\*</sup>, Leila Kamali Dolatabadi<sup>2</sup>

<sup>1</sup>Anatomy Department, Histomorphometry and Stereology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

<sup>2</sup>Department of Neuroscience, School of Advanced Medical Sciences and Technologies, Histomorphometry and Stereology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

**Published: 11 April, 2017**

#### Abstract

**Introduction:** Multiple sclerosis (MS) is a progressive and autoimmune neurodegenerative disease of the central nervous system (CNS). This disease is renowned through symptoms like inflammation, demyelination and the damage of neurological actions. Melittin is one of components of bee venom and has anti-neuroinflammatory effects. Curcumin also, a dietary spice from turmeric, has outstanding anti-inflammation and neuroprotective effects. **Materials and Methods:** Experimental allergic encephalomyelitis (EAE) is a widely accepted animal model for MS. EAE is created in animals by injecting the tissue of myelin basic protein (MBP), CNS, or myelin oligodendrocyte glycoprotein (MOG) along with the adjuvant. EAE and MS are similar diseases. EAE was induced in 40 rats randomly placed in four groups of 10: Group 1: Named E-S received normal saline (0.2 mL) every day. Group 2: Named E-mel, received 10 mg/Kg melittin every day. Group 3: Named E-cur, received 100 mg/Kg curcumin every day and Group 4: Named E-cur+mel. The treatments started from the first day of post immunization through GPSH-CFA and lasted until the tenth day. The ELISA and the high performance liquid chromatography (HPLC) were used for the assessment of tumor necrosis factor alpha (TNF- $\alpha$ ) and nitrate in rats serum. **Results:** In this study, we indicated that the treatment of EAE with melittin and curcumin decreased the symptoms of clinical disorder, level of serum TNF- $\alpha$  and the serum nitrates in rat EAE. **Conclusion:** This activity of melittin and curcumin may be caused by the anti-inflammatory effects and the immunomodulatory and antioxidant effects of these.

**Keywords:** Multiple sclerosis, Melittin, curcumin, Experimental allergic encephalomyelitis

**\*Corresponding Author:** Masoomah Mohamadpour

**E-mail:** m.mohamadpour2817@yahoo.com