

4th International Conference and Exhibition on **Immunology**

September 28-30, 2015 Crowne Plaza Houston River Oaks, Houston, TX, USA

Bee venom acupuncture in different neurological illness and its immune modulation

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Venom therapy in particular that involves bee venom was practiced in ancient Egypt, Greece and China. Venom components have been widely used in oriental medicine to relieve pain and to treat inflammatory diseases, while other potential venom-related treatments for immune-related diseases, neurological diseases, infections and tumor therapies are currently under investigation. Several proteins, neurotransmitters and peptides comprise the main components of the venoms. Some peptides are exclusive related to bee, namely melittin, apamin and mast cell degranulating (MCD) peptide. Apamin is a peptide neurotoxin that selectively blocks the small conductance of Ca²⁺ dependent K⁺ channels (SK channels) expressed in the central nervous system (CNS). Increased activity of these channels may be related to decrease in plasticity and memory deficit that is seen with aging, so bee venom therapy may be helpful in protecting cognitive functions and learning deficit. Moreover it was observed that apamin protects dopamine neurons from degeneration, also it restores the function of silent neurons, so it may be hypothesized that apamin would be helpful in Parkinson's disease (PD) and neurodegenerative disorders. Not only learning deficit, PD or neurodegenerative disorders would be responding to bee venom therapy but also it was claimed that chronic pain syndrome, multiple sclerosis, Bell's palsy, post-herpetic neuralgia, guillain-barre syndrome, neuritis, sciatica, diabetic neuropathy and carpal tunnel syndrome also would be responded to bee venom therapy through different mechanisms of action of the other venom component. Therefore, research work focusing on studying the effect of different bee venom components in neurological disorder is inevitable in correlation with its immune modulation.

Biography

Mona Mostafa Farid Ganem graduated from Faculty of Medicine, Cairo University holding a degree of M B BCh in 2003, Master's degree in Neuropsychiatry at Cairo University, 2009 and Doctorate degree in Neurology from the same university in 2015. Her research activities include "Sleep apnea and cognitive dysfunction in myasthenia gravis" and "Vitamin D and its receptor gene polymorphism in ischemic vascular dementia". Her recent projects are "Effect of low level laser on diabetic peripheral neuritis" and "Effect of low level laser on carpal tunnel syndrome". Her domains of interest are cognitive functions – Apitherapy.

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