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## Bee venom acupuncture in cognitive dysfunction in Parkinson's disease

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Parkinson's disease (PD) is a neurodegenerative and neuro-inflammatory disorder of the central nervous system, it has been known as movement disorder, also it is becoming recognized that for its non-motor characteristics that includes cognitive difficulties. Cognitive function is broadly defined as an intellectual process by which one becomes aware, perceives or comprehends ideas. It involves all aspects of perception, thinking, reasoning and remembering. Cognitive impairment means a deterioration of the mental processes such as memory, decision, understanding and reasoning. Cognitive impairment may be associated with behavioral disorders. There are different cognitive domains that accompany Parkinson's disease, the most common affected domains include: Executive functions, attention, learning and memory. Many studies reported that Bee venom therapy has anti-inflammatory and anti-neurodegenerative effects that improve PD symptoms. Also it attenuates the activation of the microglial response, reduces expression of the inflammation markers and reducing glutamatergic cell toxicity. Also it was reported that Bee venom therapy plays an important role in improving cognitive functions through blocking small conductance calcium-activated potassium channels (SK channels), also can increase brain-derived neurotrophic factor (BDNF).

### Biography

Ahmed G Hegazi is currently a Professor of Microbiology and Immunology in the National Research Center, Egypt. He has received his Master's degree in 1979 and his PhD in 1981. He has been the Principal Investigator on multiple research projects within the National Research Center. He has published 211 scientific papers and articles in national and international journals. He has served on the board of multiple national and international scientific journals. He is also the President of the Egyptian Environmental Society for Uses and Production of Bee Products, Secretary of the Egyptian Society of Apitherapy, Secretary General of the African Federation of Apiculture Associations and a Member of the International Apitherapy Commission (APIMONDIA). He has received several awards which include First Class Decoration of Excellence (1995), The Senior Scientist Prize of National Research Center, (1996), The National Scientific Prize In Biological Sciences (1990), The Scientific Prize of The National Research Center (1989), 2 Bronze Medals from The International Innovation Fair of the Middle East, Kuwait (2007), awarded Ghazi Wad Allah Salon Prize (2008) and has 4 patents to his credit.

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