World Academy of Science, Engineering and Technology
International Journal of Bioengineering and Life Sciences
Vol:9, No:08, 2015

Types of Neurons in the Spinal Trigeminal Nucleus of the Camel Brain: Golgi Study

Authors : Qasim A. El Dwairi, Saleh M. Banihani, Ayat S. Banihani, Ziad M. Bataineh

Abstract : Neurons in the spinal trigeminal nucleus of the camel were studied by Golgi impregnation. Neurons were classified based on differences in size and shape of their cell bodies, density of their dendritic trees, morphology and distribution of their appendages. In the spinal trigeminal nucleus of the camel, at least twelve types of neurons were identified. These neurons include, stalked, islets, octubus-like, lobulated, boat-like, pyramidal, multipolar, round, oval and elongated neurons. They have large number of different forms of appendages not only for their dendrites but also for their cell bodies. Neurons with unique large dilatations especially at their dendritic branching points were found. The morphological features of these neurons were described and compared with their counterparts in other species. Finding of large number of neuronal types with different size and shapes and large number of different forms of appendages for cell bodies and dendrites together with the presence of cells with unique features such as large dilated parts for dendrites may indicate to a very complex information processing for pain and temperature at the level of the spinal trigeminal nucleus in the camel that traditionally live in a very hard environment (the desert).

Keywords : camel, golgi, neurons , spinal trigeminal nucleus
Conference Title : ICMMA 2015 : International Conference on Microscopic and Macroscopic Anatomy
Conference Location : Barcelona, Spain
Conference Dates : August 17-18, 2015