

HISTOCHEMICAL STUDY OF SUBSTANCE CHOLECYSTOKININ IMMUNOREACTIVE NEURONS IN THE CORTEX OF HUMAN INFERIOR PARIETAL LOBULE AND THEIR IMPORTANCE IN THE CLINIC

C.G. Alexopoulos¹, L. Puskas², M. Sazdanovic³, P. Sazdanovic⁴

¹College of Nursing, Cuprija, ²Department of Anatomy, Medical Faculty University of Belgrade, Belgrade, ³Department of Histology and Embryology, ⁴Department of Anatomy, Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia

Introduction: Cholecystocinin is a neuropeptide which function in cortex has not yet clarified, although its relation with some psychic disorders has been noticed.

Aim: The aim of this study was a precise examination of morphology and typography of neurons which contain cholecystocinin in human cortex of inferior parietal lobule.

Material and methods: There were six human brains on which we did the immunocytochemical research of shape and laminar distribution of cholecystocinin immunoreactive neurons on serial sections of supramarginal gyrus and angular gyrus. Morphological analysis of neurons which are immunoreactive to cholecystocinin is done on frozen sections using avidin-biotin technique, by antibody to cholecystocinin diluted in proportion 1:6000 using diamine-benzidine.

Results: Neurons that are immunoreactive to cholecystocinin were found in the first three layers of cortex inferior parietal lobule, and their densest concentration was in the 2nd and 3rd layer. The following types of neurons were found: bipolar neurons, then its fusiform subtype, Cajal-Retzius neurons (in the 1st layer), reverse pyramidal (triangular) and unipolar neurons. The diameters of some types of neurons were from 10 to 28 μm , and the diameters of dendritic arborization were from 80-201 μm .

Conclusion: Regarding the numerous clinical researches, in which it has clearly been evinced about the role of cholecystocinin in pathogenesis of schizophrenia, and according to the findings of the great number of neurons, which are immunoreactive to cholecystocinin in cortex of inferior parietal lobule, it is suggested that cholecystocinin has a significant role in pathogenesis of schizophrenia.