

GLIAL TPPase AND NDPase ACTIVITIES IN THE SPINAL CORD IN THIAMINE-DEFICIENT RATS
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Cytochemical localization of thiamine-pyrophosphatase (TPPase) and nucleoside-diphosphatase (NDPase) in glial cells of the nervous system is very constant as we have previously observed in rat, mouse, quail and freshwater crayfish. The purpose of the present work was to examine cytochemical distribution of both TPPase and NDPase enzymatic activities in nervous system glial cells in thiamine deficient rats, in which myelin and glial alterations have been reported.

Adult rats of both sexes nourished during three weeks with diet lacking thiamine were used. After fixation, cervical spinal cord sections were incubated in appropriate media to TPPase and NDPase demonstration, and subsequently in a conventional way processed for electron microscopy.

Results: Astrocytes show enzymatic activity related to Golgi apparatus, microglial cells present enzymatic activity at the outer surface of cytoplasmatic membrane, in oligodendrocytes TPPase and NDPase can be found in Golgi cisternae, rough endoplasmatic reticulum and in nuclear envelope. It must be also denoted that histochemical demonstration of both enzymes in one part of glial population, specially oligodendrocytes located in white matter, appears diminished.

These observations let us to conclude that cytochemical distribution of TPPase and NDPase in glial cells of spinal cord in thiamine deficient rats is similar to pattern observed in control animals. Moreover, decreased activity in some oligodendrocytes can be closely related with myelin alterations.