THE STUDY OF APOPTOSIS INDUCE OF PRESSURE IN SPINAL CORD INJURY IN ADULT RATS

M. Heshmati, Anatomy and Pathology
Shahed University, Tehran, Iran

Introduction: One of the methods of studying this field is establishment of spinal cord injuries in laboratory animals. Achievements in neurobiology and important progresses in cellular and molecular biology.

Aim: In this study we try to make spinal cord injury in Sprague - Dawley rats and then study the gliosis reaction.

Methods: We used aneurysm clips to compress the spinal cord. Then the injection of serum physiology or Deprenyl was done. This study consists of two parts. The study of mRNA of TrK-A, TrK B and P75 which sampling was done in 2-4-8-24-72 hours. And study of morphometry and immunohistochemistry which sampling was done in 1, 2 and 4 weeks after laminectomy and injection.

Results: Decrease motoneuron in Ant. horn of spinal cord with pit, the comparison between two groups by T test revealed a significant decrease in untreated group (p<0.05). In group which received Deprenyl for 4 weeks the effect of drug on protection of motoneurons was significant (p<0.05). The immunohistochemistry study indicates that, the number of glial cells increased in group which did not receive Deprenyl. Electrophoresis results showed that, following Deprenyl injection, the expression of P75NTR gene was blocked in first hour. After 8, 24 and 72 hours the expression of this gene increased. Comparison between two groups in 8 and 24 hours was not significant but it was significant in 24 and 72 (p<0.05).

Conclusions: Deprenyl injection caused an increase in motoneuron and TrKB expression. The expression of TrK-A was seen in all samples but.