SUMMARY

‘EFFECTS OF GERANYLGERANYL ACETON ON SECONDARY INJURY IN EXPERIMENTAL ACUTE SPINAL CORD ISCHEMIA’

Objectives: This study investigated the neuroprotective effects of geranylgeranylaceton GGA on spinal cord ischemia in an experimental model.

Material and method: Thirty Wistar albino rats were included in five study groups randomly (n=6 for each group). Group 1 is defined as control group. In group 2, we have applied intraperitoneally GGA to the rats. In group 3, we have applied intraperitonally GGA before the surgery and than spinal cord iscemia has been carried out by clamping abdominal aorta through laparotomy. In group 4, we have applied GGA intraperitoneally after the laparotomy. In Group 5, we have carried out spinal cord iscemia in rats and not applied any medication. After 24 hours, spinal cords of rats have been exized and evaluated hystopathologically. Vitality index (VI) has been analised. HSP-70, TNF-α levels in tissue have been analised.

Results: In group 3 and 4 (particularly in group 3), VI was significantly higher than that in group 5. In group 3, HSP-70 levels were significantly higher than that in other groups. In group 3, TNF-α levels were significantly lower than that in other groups.

Conclusion: GGA has neuroprotective effect in experimental spinal cord iscemia model. GGA application results in increased HSP-70 levels, decreased TNF-α levels.