Methylprednisolone for spinal cord injury

- Phyllanthin from Phyllanthus amarus exerts neuroprotective effects against spinal cord injury in experimental rats
- Injectable thermosensitive hydrogel system based on hyaluronic acid and methylcellulose for the synergistic therapy of traumatic spinal cord injury
- Guide for Cell Therapy in Human Chronic Spinal Cord Injury
- Effect of combined treatment with Sodium valproate and methylprednisolone on neurological recovery after experimental spinal cord injury
- Advances and New Therapies in Traumatic Spinal Cord Injury
- High-dose preoperative intraperitoneal erythropoietin and intravenous methylprednisolone in acute traumatic spinal cord injuries following decompression surgeries
- Targeted Delivery of Acid-Responsive Rutin Nanoparticles Based on Aldehyde Adsorption for the Treatment of Spinal Cord Injury in Rats
- Therapeutic strategies that modulate the acute phase of secondary spinal cord injury scarring and inflammation and improve injury outcomes

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Based on a thorough reanalysis of NASCIS2 data using current statistical methods, Nash et al. agree with Geisler et al. that MP should not be considered when treating ATSCI, as its use is unsupported and may invoke unanticipated harm in this high-risk target population [1].

Methylprednisolone is a corticosteroid that was proposed to inhibit the inflammatory cascades contributing to secondary spinal cord damage after TSCIs, but its clinical utility remains controversial [2] [3].

Administration of methylprednisolone (MP) for the treatment of acute spinal cord injury (SCI) is not recommended. Clinicians considering MP therapy should bear in mind that the drug is not Food and Drug Administration (FDA) approved for this application.

There is no Level of Evidence 1 or Level of Evidence 2 supporting the clinical benefit of MP in the treatment of acute SCI. Scattered reports of Class III evidence claim inconsistent effects likely related to random chance or selection bias. However, Class I, II, and III evidence exists that high-dose steroids are associated with harmful side effects including death.

• Administration of GM-1 ganglioside (Sygen) for the treatment of acute SCI is not recommended.

Three substances, naloxone, thyrotropin release hormone, and tirilazad, have been studied less extensively [4] [5] [6].

Further research to define their therapeutic roles in SCI is necessary but because of modest results is unlikely to occur. In 2002, the guidelines author group of the Joint Section on Disorders of the Spine and Peripheral Nerves of the American Association of Neurological Surgeons (AANS) and the Congress of Neuro- logical Surgeons (CNS) [7] published a medical evidence-based guideline on the use of MP and GM-1 ganglioside in the setting of acute cervical spinal cord injury.

Studies in animal models indicate that recombinant human erythropoietin (rhEPO) is very effective in enhancing neurological recovery after spinal cord injury (SCI).

Early administration of medications after injury increases the hope of attenuating secondary damage and maximizing an improved outcome.

Methylprednisolone sodium succinate (MPSS) plus rhEPO started within 6 hours after acute spinal injury may be more effective than MPSS plus placebo in improvement of neurologic dysfunction. More studies with larger sample sizes are warranted [8].

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