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Effect of long-term 4-aminopyridine treatment on chronic spinal cord injury patients

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Different degrees of spontaneous motor and sensory recovery have been observed in incomplete spinal cord injury patients but just discrete in complete lesions. 4-aminopyridine (4-AP) has demonstrated functional improvement in some aspects of these patients in short-term studies; however, there is very little information about long-term effect of 4-AP in this kind of patient. Here, we communicate 4-AP treatment benefits after 3 to 36 months follow-up of 47 patients who accepted to participate in an open-label study after they finished a randomized, double blind placebo controlled clinical trial. After a wash-out period, all 47 patients received progressively increased doses of 10 mg of 4-AP periodically, according to negative electroencephalogram and blood tests abnormalities and minor adverse reactions. Pre-treatment and last evaluation (6, 12, 24 or 36 months or when patients dropped out of the study) on motor, sensation, and independence scales were considered to establish statistical significance. Thirty-three patients were men; 25 had complete SCI (ASIA A) and 24 had thoracic lesion. Nineteen of 22 incomplete SCI patients improved in at least 2 of the 3 scales, which include 53/66 possible positive changes. Fourteen of 25 complete SCI patients improved in at least 2 of the 3 scales, which include 46 of 75 possible positive changes. Almost all patients with chronic incomplete spinal cord injury either cervical or thoracic obtained functional benefits; more than half of patients with chronic complete spinal cord injury obtained functional benefits, although mainly those with cervical lesion.

Biography

Israel Grijalva is neurosurgeon and PhD from Universidad Nacional Autónoma de México Facultad de Medicina, and Postdoctoral studies from University of Miami School of Medicine. He is the Head of the Medical Neurological Diseases Research Unit of the Specialties Hospital, Centro Médico Nacional Siglo XXI in México City, which belongs to the Instituto Mexicano del Seguro Social (Mexican Institute for Social Security). He has published more than 45 papers in reputed journals and 11 chapters in medical and research books.

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