

ways that should be considered as targets for therapeutic intervention in cisplatin-induced neuropathy. Study supported by a generous gift from Wade F. B. Thompson.

T-41. Sports and Trauma in Amyotrophic Lateral Sclerosis Revisited

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OBJECTIVE: Review the literature from 2003 to 2006 to determine if new data change the conclusions of a previous review (Neuroepidemiology 2003; 22:217-228) that sports and trauma are probably ("more likely than not") not risk factors for developing ALS.

BACKGROUND: Reported apparent excess occurrence of ALS in professional Italian soccer players has rekindled the discussion, whether sports or trauma are risk factors for ALS. **METHODS:** A Medline search was conducted for the years 2002 – 2006. Original articles were classified using evidence-based methods. The expected number of cases of ALS in the Italian soccer player cohorts was re-calculated independently, assuming complete case finding in the reference cohort. Previous evidence was considered in updating conclusions.

RESULTS: Two reports showed that physical activities and sports were associated with reduced risk of, or not associated with, ALS (Class III). A third concluded that varsity athletics and low BMI were risk factors for ALS (Class IV). There was no excess of ALS in Italian soccer players (two articles, Class III).

CONCLUSIONS: 1. Trauma and physical activity are probably not risk factors for ALS (Level B, unchanged). 2. There is possibly no excess of ALS in professional Italian soccer players (Level C). Dr. Armon has provided expert opinion in cases in which trauma was alleged to have caused ALS.

T-42. Treatment with Rasagiline in Patients with Amyotrophic Lateral Sclerosis

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Rasagiline is a new antiparkinsonian agent with neuroprotective properties, which increased survival in SOD1 transgenic mice.

Eighteen patients (13 males) aged 56 ± 14.3 years, with clinically definite or probable amyotrophic lateral sclerosis (ALS) were treated off-label with rasagiline 2 mg as add-on to riluzole. Patients were evaluated every 3 months using the ALSFRS-R scale. For 9 patients clinical evaluations were available for 9-14 months before start of rasagiline. The rate of deterioration of ALSFRS-R in rasagiline-treated patients was compared to that of 25 randomly chosen patients, treated with riluzole only.

Mean time on rasagiline was 9.5 ± 5.8 months (range 2.23-24.94). The mean slope of ALSFRS-R deterioration for rasagiline-treated patients was 0.68 ± 0.37 /month, compared to -1.02 ± 0.60 in the riluzole-only group, and a slope of ~ -1 reported in the literature. In patients with pre-treatment data, the mean deterioration slope was -1.11 ± 0.27 /month before rasagiline onset and 0.62 ± 0.27 thereafter. No significant side effects of rasagiline were reported.

Despite limitations of this small, non-blinded, retrospective analysis, it appears that rasagiline has positive effects on the rate of ALS deterioration. Further investigation of this drug as a potential treatment for ALS is warranted.

T-43. Biopsy of the Median Motor Nerve: Description of Technique and Complications

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There is no failsafe method to separate multifocal motor neuropathy (MMN) without conduction block from motor neuron disease except for atypical progression. IVIG is an effective treatment for MMN but failure to treat early may lead to irreversible loss of strength. Biopsy of motor nerves may assist in diagnosis. Since arms are the most frequent site of onset, a safe and easily accessible motor nerve to biopsy is required. We performed 39 median nerve and pronator muscle biopsies between 2002 and 2006. A small branch to the pronator muscle is identified after intraoperative stimulation of one of the identifiable branches by eliciting an evoked response recorded by a concentric needle placed in the pronator muscle. Simultaneous biopsy of the pronator muscle is performed for correlation of nerve and muscle pathology. Wound infection occurred in two patients (5%), hematoma in one patient required repeat surgery for evacuation (2.5%) and persistent pain with numbness occurred in one patient (2.5%). No patient developed new weakness. Median nerve/pronator muscle biopsy is safe and is able to provide important information to assist in the diagnosis of disorders characterized by weakness without sensory loss.

T-44. Long-Term Alpha-Glucosidase Therapy in a Case of Juvenile-Adult Form Pompe Disease

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The 21 year-old male patient suffered from insidious onset of progressive weakness of bilateral lower limbs since 17 years old. He complained of difficulty in running and climb the stair since that time. Difficult swallowing and periodic attack of respiratory failure were found since 20 years old. The patient had several episode of pneumonia followed episodic respiratory failure. Intubation was done twice for improving conscious disturbance due to hypoxia. He was usually waken up by breathless sensation, and the condition improved after BiPAP use at night. Pompe disease was diagnosed after muscle biopsy. Lymphocyte alpha-glucosidase enzyme assay showed 1.73 (normal > 60) nmol/mg/Prot/hr. GAA gene DNA analysis (exon2-20) showed heterozygous mutation at exon 14 codon [GAC→GAA, Asp→Glu]. Pompe disease of juvenile-adult form was confirmed. Alglucosidase was prescribed since Sep 2006. After six months treatment every two weeks (20 mg/Kg/IV q2wk), the lower limbs weakness was improving and now he can walk without support. Lower serum CK and improved respiratory function were noticed. Follow up muscle biopsy showed dramatic improvement in terms of less autophagic, necrotized and glycogen containing vacuolar fibers. This patient still keeps infusional therapy of alpha-glucosidase every two weeks and his condition is getting better which will be present detailedly.

T-45. Alemtuzumab (CAMPATH 1-H) Therapy in Sporadic Inclusion Body Myositis (sIBM) Alters Disease Progression and Suppresses Endomysial Inflammation

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In this study we examined the effectiveness of Alemtuzumab in suppressing endomysial inflammation and arresting sIBM

progression. Alemtuzumab is a humanized monoclonal antibody against CD52 that causes severe PBL reduction up to 6 months. Thirteen sIBM patients with a 12 – month natural history were treated with 0.3 mg/kg/day Alemtuzumab for 4 days. Primary end-points were the disease stabilization or increased strength 6 months after treatment. During a 12 – month observation, patients' total strength had declined by a mean of 14.9% on QMT, while six months after therapy, only by 1.9 % ($p < 0.002$). Six of 13 patients improved by 15.7% (4 – 35%); the other 7 declined by 6% (-1.5 – 15%). Total MRC scores declined during observation by 13.8% but improved after 6 months by 11.4 % ($p < 0.001$). PBL depletion persisted for 6 months after treatment, with naive CD45RA⁺ CD62L⁺, but not effector CD45RA⁺CD62L⁻, cells affected. Repeated muscle biopsies showed CD3 lymphocyte depletion by a mean of 50 % ($p < 0.008$). Only mRNA of Fas, Mipa and α B-crystallin, were significantly reduced in muscle. In sIBM, Alemtuzumab causes peripheral and endomysial lymphocyte reduction and halts disease progression up to 6 months.

T-46. Comparison of Thymectomy with Conservative Treatment in Autoimmune Non-Thymomatous Myasthenia Gravis

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Background: There is lack of consensus on the role of thymectomy in the management of myasthenia gravis.

Aim: To evaluate the benefit of thymectomy over conservative treatment in non-thymomatous Myasthenia Gravis (MG), in a matched study.

Patients & Methods: Over a period of 32 years (1969-2000), 375 Patients of MG were evaluated. All the patients were sorted out with a computer as per the age, gender and duration of illness and severity of illness. Thirty-two thymectomized non-thymomatous MG patients were compared with their controls who were matching for the prognostic variables.

Results: The best response(modified Keyne's classification) was seen in 13 thymectomized patients and 14 non-thymectomized patients. Both groups were not having any statistically significant differences in the multiple prognostic variables, including the immunomodulation. There were 4 patients in each group, with a drug free remission period of one year. In the non-thymectomy group additional 4 asymptomatic patients, were not receiving AchEI for a period of one year, but they were on immuno modulators.

Conclusion: Thymectomy did not offer any distinct advantage over conservative treatment in inducing remission or improvement of myasthenia.

T-47. HyperIgEaemia-Atopy Associated CIDP (Chronic Immune Dysschwannian Polyneuropathy) Can Have Excellent Benefit from Intravenous Immunoglobulin (IVIg)

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Elevated serum IgE, often accompanied by multi-tissue evidence of atopy, can be associated with neuromuscular disease. A. Kimura (2005) described a patient having CIDP with elevated total IgE (850 IU/mL), who responded to IVIG treatment. We present three men with markedly elevated IgE levels of 2332-11,606 IU/ml (normal 0-165), and

several aspects of the Hyper-IgE Syndrome (HIES); none has blood or muscle-biopsy eosinophilia. Two have CIDP and one has CIDP plus slight non-inflammatory myopathy. Each patient's extensive workup established the diagnosis of a dys-immune dyschwannian neuropathy. With IVIG treatment, the improvement of one CIDP patient (age 55, IgE 2332) began rapidly and continues to increment. The CIDP+myopathy patient (age 48, IgE 6739) had no benefit from IVIG (nor from other immune-modulations). For the third patient (age 23, IgE 11,606), IVIG results will be presented. Serum IgE levels and features of atopy, including atopic dermatitis, chronic infections, and other aspects of the rare HIES, can help categorize CIDP patients, although a putative pathogenic role of the hyper-IgE/atopy remains unclarified. We emphasize that this neuropathy can respond to IVIG, and suggest it is a subtype of CIDP.

T-48. Atorvastatin Protects Spinal Motor Neuron Death from Axotomy Induced Neuronal Death

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In the recent years, several studies have demonstrated that statins, in addition to their lipid-lowering effects, have neuroprotective properties. These properties of statins have suggested they have beneficial effects in neurological disorders. To examine the neuroprotective effect of atorvastatin in vivo, we examined the ability of atorvastatin on axotomized spinal motor neuron death in the rat spinal cord. After the postnatal unilateral section of sciatic nerve, there was approximately a 50% survival of motor neurons in the fourth lumbar segment. In comparison with vehicle, intraperitoneal injection of atorvastatin for 14 days rescued spinal motor neurons. There was no significant relationship between rescue of spinal motor neuron numbers and dose of atorvastatin. Our results indicated that atorvastatin plays an important role in the survival and maintenance of spinal motor neurons in their neuroprotection against axotomy induced neuronal death. This finding indicates a potential therapeutic use of atorvastatin in treating neuronal death that kill the spinal motor neurons, such as amyotrophic lateral sclerosis and motor neuropathies.

T-49. Metabolic Proteins Are Down-Regulated in Denervated Skeletal Muscle

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Nerve supply is very important in maintaining the function of skeletal muscle. To study the effects of denervation on skeletal muscle, we made experimentally denervated rat muscles by removal of unilateral sciatic nerves. Then we excised denervated and ipsilateral innervated skeletal muscles. We extracted the RNA and isolated differentially down-regulated genes from the denervated skeletal muscle by using ready-made DNA microbead analysis (130th ANA meeting, San Diego, 2005). Using the differentially down-regulated genes from denervated skeletal muscle, we made a DNA chip and carried out semi-quantitative analysis. Then, cDNA from both normally innervated and denervated skeletal muscle was labeled with cy3 and cy5, respectively, and was applied to the DNA chip. Signals of fluorescence were measured, and signal ratios of the denervated muscle to normal muscle were calculated. Low signal ratios were shown in phosphoglycerate mutase, protein kinase inhibitor, and glycerol-3-phosphate dehydrogenase. Most of these proteins were metabolic en-