

## Activities of the EFNS Task Force on Post-Polio Syndrome

The Task Force on Post-Polio Syndrome, under the auspices of the European Federation of Neurological Societies (EFNS), was established in January 2003 to clarify and define the various terms used for the disabilities experienced by previous paralytic polio patients, and propose a common understanding and definition of the term "post-polio syndrome" in Europe; to give a brief review of the proposed mechanisms behind late polio deterioration; and to set up guidelines for health care interventions for this patient group.

**Current Project:** The Task Force is working on the "EFNS Guidelines on diagnosis and management of post-polio syndrome" to be submitted to the *European Journal of Neurology* by January 2005. The manuscript will then undergo the ordinary referee evaluation as a part of the publishing process.

### EFNS Task Force on Post-Polio Syndrome

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### Recent Articles by Members:

**Post-polio syndrome and total health status in a prospective hospital study** by E. Farbu, T. Rekand and N.E. Gilhus, was published in the *EFNS European Journal of Neurology* 2003, 10:407-413. Eighty-five patients referred to the Department of Neurology, Haukeland University Hospital, Bergen, aged 47-91 years with mean of 61 years, were examined prospectively. The most common complaints were pain (44%), muscular weakness (27%) and fatigue (16%). Post-polio syndrome was diagnosed in 26% of the patients. Polio-related loss of function including cervical and lumbosacral radiculopathies, mononeuropathies and degenerative joint disease were found in an additional 53%. Eleven patients (13%) had distinct non-polio-related disorders that caused new loss of function. The remaining 8% had a stable condition.

**Postpolio syndrome** by F. Nollet and M. de Visser, was published in the *Archives of Neurology*, July 2004, 61:7, 1142-4. They review the early literature reporting cases of late-onset weakening following poliomyelitis from 1875 to 1954, because it provides insight for understanding PPS today. The authors question whether nonparalytic polio really exists. During acute poliomyelitis there was a continuum of paresis with severe amounts less prevalent than moderate amounts.

**Members Borg and Farbu presented at the 8th EFNS Congress in Paris, France in September 2004.** Their abstracts are reprinted with the permission of the EFNS [*European Journal of Neurology*, 11 (Suppl. 2)].

### **Immunopathogenesis of the post-polio syndrome**

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Many polio patients experience new or increased symptoms decades after the acute infection, a condition known as the post-polio syndrome (PPS). An inflammatory process has been described in some studies but has not been found in others. In the study by Gonzalez et al (2002) we found a chronic inflammatory process in the CNS of PPS patients by means of studying cytokine expression of mononuclear cells in the cerebrospinal fluid. The levels of cytokine expression were comparable with those of patients with multiple sclerosis. The cytokine levels were down-modulated to normal values by means of treating the patients with intravenous gammaglobulin (Gonzalez et al 2004). In order to study if the decrease of cytokine levels was followed by a clinical improvement with a gain of function, a multi-centre, double-blinded and placebo-controlled study was performed. The results of this study are at the moment not finally analyzed. It is, thus, concluded that there is an inflammatory process in the CNS of patients with PPS. The inflammation may play a role in the pathogenetic mechanism of PPS. The inflammation is down-modulated by intravenous gammaglobulin. If this is followed by a clinical improvement it leads to new therapeutic strategies for the treatment of patients with PPS.

### **Post-polio syndrome (PPS) treated with intravenous immunoglobulin**

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Patients with previous poliomyelitis can after many years develop new atrophy and new muscle weakness, known as the post-polio syndrome (PPS). The cause for this progression is not known. The patients have increased expression of mRNA for the inflammatory cytokines TNF-alpha, IL-10, IL-4 and IFN-gamma in their CSF. This suggests an ongoing inflammatory process. Intravenous immunoglobulin may be a therapeutic option for these patients. The study is a placebo-controlled, double-blinded prospective study, independent of any pharmaceutical company. 20 patients with PPS with mean age of 61 years were included. After randomisation, they were given either intravenous immunoglobulin at dose 2g/kg body weight during two days, or placebo (saline). They were evaluated clinically with neurological examination, muscle strength assessment with Carolus™, with Fatigue Severity Scale, Disability Rating Index, and with Patient's Global Impression of Change. Evaluation was performed prior to treatment, after one week, one month, three months and six months. All included patients have received treatment and no serious side effects have occurred. Clinical results will be presented after the code for randomisation has been opened in July 2004 and will be published in 2005. ●