

Biomarkers in the csf are helpful in measurement of the effectiveness of multiple sclerosis therapy. Yes.

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A substantial progress in the field of CSF in multiple sclerosis (MS) can be observed in recent years. For example, quantitative and simple nephelometric determination of free kappa light chains has a good chance to replace demanding oligoclonal band (OB) test in the diagnosis of the disease. In addition, determination of neurofilament light chains (Nfl), a biomarker of axonal integrity can predict disability progression in a patient with early MS.

CSF NfL are also helpful in measurement of the effectiveness of MS therapy. As shown in a seminal study from Gothenburg NfL levels in the CSF normalized to the levels seen in healthy controls in patients treated with a potent agent natalizumab. Furthermore, in a subgroup of 36 patients in the FREEDOMS trial marked reduction of CSF NfL was found when patients were treated with fingolimod compared to the placebo treated patients. In addition CSF NfL decreased for more than 50% in 35 patients with primary progressive MS treated with rituximab and mitoxantrone suggesting that CSF NfL determination could be a potential surrogate marker in progressive MS trials. A simple biomarker test obtained at the diagnosis can sometimes be helpful as a prognostic marker of effectiveness of therapy. In the BENEFIT trial, for example where clinically isolated syndrome patients were treated with interferon beta-1b OB-positive status predicted better response to the therapy. CSF biomarkers could also serve as predictors of possible, severe side effects. In natalizumab treated patients CSF OB sometimes disappear suggesting that the drug modulates B cell activity. This could result in an impairment of humoral immunity-mediated defenses against infectious agents with consequent reactivation of pathogens in the CNS, such as JC virus. A very important problem of using CSF biomarkers for monitoring the disease activity are repetitive lumbar punctures which need to be as 'patient friendly' as possible. Therefore usage of atraumatic needles which reduce the development of post-lumbar puncture headache should be recommended.