ALEMTUZUMAB (Lemtrada®)

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Until recently, the scope of traditional treatment goals in multiple sclerosis (MS) has been limited by the moderate capacity of disease-modifying therapies (DMTs) to reduce relapse rate and delay disability progression, as well as to reduce the accumulation of new MRI lesions. With the availability of new treatment options, more ambitious treatment goals can be considered, which determine new outcome measures. Clinical endpoints now focus on the prevention of long-term disability progression and improvement in pre-existing disability, while reducing brain volume loss has become a valid MRI endpoint. The ultimate goal is freedom from both clinical and MRI disease activity. Furthermore, patient reported outcome measures (PROMs) and the patient's roles in selecting the appropriate therapy have become increasingly important.

Alemtuzumab is a humanized monoclonal antibody against CD52, a protein abundant on the surface of B and T cells[1] that has been approved for use in relapsing-remitting MS (RRMS) in more than 40 countries, most recently in the USA. An appealing feature of alemtuzumab is its unique dosing regimen, consisting of 12 mg/day on 5 consecutive days, and then 12 mg/day on 3 consecutive days 12 months later[2]. This circumvents to a large extent treatment adherence issues associated with the chronic administration of injectable DMTs.

Three head-to-head trials with alemtuzumab vs high-dose subcutaneous interferon beta-1a (SC IFNβ-1a) have been completed in patients with active RRMS,[3-5] and an extension study is ongoing.[6] Data from these studies indicate that alemtuzumab is a highly efficacious DMT in terms of its effects on annualized relapse rates, sustained accumulation of disability, improvements in pre-existing disability, and freedom from MRI and clinical disease activity[3,4,7-12]. Alemtuzumab has also been shown to slow the yearly rate of brain volume loss over 3 years in both treatment-naive patients and those who relapsed on prior therapy vs. SC IFNβ-1a[13-17]. Data from the core studies are supported by extension study outcomes obtained to date[18-21].

In terms of patient-centric parameters, alemtuzumab-treated patients have reported significant improvement in quality of life vs. SC IFNβ-1a as measured by the Functional Assessment of Multiple Sclerosis (FAMS) quality of life instrument[22]. Moreover, significantly greater improvements in the Multiple Sclerosis Functional Composite (MSFC) Z-score and its timed 25-foot walk and 9-hole peg test components were obtained in alemtuzumab- vs. SC IFNβ-1a-treated patients.

Taken together, these findings suggest that alemtuzumab will be a key option in the treatment decisions taken by doctors and patients alike.

References

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