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Switching to Novartis drug Gilenya from standard interferon shown to improve long-term outcomes for patients with multiple sclerosis

- Gilenya resulted in almost 50% more patients being free of MS disease activity after the switch from standard interferon treatment
- Annualized relapse rate reduced by >50% after 1 year for patients who switched from standard interferon treatment to Gilenya
- Reduced rate of brain volume loss sustained for up to 4.5 years in patients with active disease, despite prior treatment, who switched from interferon to Gilenya

Basel, June 10, 2013 – Two new analyses from the Phase III TRANSFORMS study presented at the 23rd meeting of the European Neurological Society (ENS) in Barcelona, demonstrated how Novartis’ Gilenya® (fingolimod) was effective against all four key measures of disease activity in multiple sclerosis (MS) - brain volume loss, lesion activity (measured by magnetic resonance imaging - MRI), relapse rates and disability progression. Improvements were seen in patients who switched from standard interferon (interferon beta–1a) treatment to Gilenya within 12 months of the switch and up to the end of the 4.5 year extension study1,2.

“Data have consistently shown that treatment with Gilenya leads to more patients staying disease free, compared to standard interferon treatment.” said Dr. Timothy Wright, Global Head Development, Novartis Pharmaceuticals. “MS is a chronic neuroinflammatory and neurodegenerative illness where disease activity leads to accumulation of disability and loss of brain tissue. These new findings demonstrate the effect of Gilenya on these key disease measures, both in the early years and in the longer-term.”

The new analysis evaluated the association between measures of disease activity (defined as relapses, 3-month disability progression or MRI activity) in the first year of therapy and long-term clinical outcomes. Gilenya increased the proportion of patients who were disease-free by almost 50% (from 44.3% to 66.0%) upon switch from interferon to Gilenya in year-1 to year-2. Patients who had disease-activity at the end of the first year were significantly less likely to remain clinically disease free (OR= 0.63-0.35, p<0.05) during the following 3.5 years of the extension study1.

A separate post-hoc analysis showed that patients who had disease-activity in the year prior to entering the study, despite prior treatment with a disease-modifying treatment, experienced sustained benefit on Gilenya with a lower annualized relapse rate (ARR) compared to those who were given interferon for the first year (ARR of between 0.19-0.22 compared to 0.31-0.32 respectively)2. In patients who were switched from interferon to Gilenya after one year, the ARR was reduced by more than 50% (from between 0.33-0.37 ARR on interferon to 0.14-0.16 ARR on Gilenya treatment) and remained low to the end of the study up to 4.5 years2.
Further analysis showed that irrespective of prior treatment and disease activity, brain volume loss was significantly reduced (by about 50%) after one year in patients taking Gilenya compared to those taking interferon and this low rate was sustained until the end of the study while on Gilenya\(^2\). Similarly, a slowing / decrease in the rate of brain volume loss was observed in patients that switched from interferon to Gilenya after one year\(^2\). Gilenya is the only approved MS treatment shown to consistently reduce brain volume loss across studies with a significant effect seen as early as six months\(^3\)\(^-\)\(^5\). A low rate of brain volume loss with Gilenya was sustained for up to four years in Phase III studies and for up to seven years in patients after completing a Phase II study\(^6\)\(^,\)\(^7\). Brain volume loss in MS occurs early and predicts long-term disability\(^8\).

Additional data being presented at ENS (11\(^{th}\) June 2013) show how Gilenya could have beneficial impact on MS through its well characterized effect on the immune system and also through a potential direct effect within the central nervous system\(^9\)\(^,\)\(^10\).

**About Multiple Sclerosis**
While its exact cause is unknown, multiple sclerosis (MS) is an autoimmune disease of the central nervous system (CNS) that causes the body to turn against itself by mistaking normal cells for foreign cells\(^11\). In MS the myelin sheath, the covering that protects nerve fibers, is damaged by the inflammation that occurs when the body’s immune cells attack the nervous system\(^12\). This neuro-inflammatory damage can occur in any area of the brain, optic nerve and spinal cord and cause a range of physical and mental problems including loss of muscle control and strength, vision, balance, sensation and mental function\(^13\). Up to 2.5 million people worldwide are affected by MS\(^14\), most often younger people between the ages of 20 and 40\(^15\).

**About Gilenya**
Gilenya is the first oral therapy approved to treat relapsing forms of MS and the first in a new class of compounds called sphingosine 1-phosphate receptor modulators\(^16\)\(^,\)\(^17\). It is thought that Gilenya works in two ways against the destructive processes that drive MS disease progression by affecting not only the immune system to reduce inflammatory damage but also the CNS to promote neuroprotection and repair\(^17\). Gilenya is thought to act by preventing lymphocytes (the cells that cause inflammation and damage in the CNS) from leaving the lymphoid tissues, thus reducing their entry into the central nervous system and potential for damage\(^16\)\(^,\)\(^17\). Gilenya is also able to cross the blood-brain barrier and act on the neurodegeneration process in the brain and spinal cord\(^16\)\(^,\)\(^17\).

Gilenya is the only oral MS treatment that provides early and long-term reduction in the rate of brain volume loss and enduring high efficacy across all key disease activity measures\(^3\)\(^,\)\(^6\)\(^,\)\(^18\)\(^-\)\(^19\). In clinical trials, Gilenya exhibited a well-characterized safety profile and very good tolerability profile\(^4\)\(^,\)\(^5\). The most common side effects were headache, liver enzyme elevations, influenza, diarrhea, back pain, and cough\(^4\)\(^,\)\(^5\). To date, approximately 63,000 patients have been treated with Gilenya demonstrating a positive benefit-risk profile in clinical study and real-world settings\(^20\).

Gilenya is licensed from Mitsubishi Tanabe Pharma Corporation.

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