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Titel des Beitrags:
Tideglusib reduces progression of brain atrophy in progressive supranuclear palsy in a randomized trial.

Abstract:
It is believed that glycogen synthase kinase-3 hyperphosphorylates tau protein in progressive supranuclear palsy (PSP). The Tau Restoration on PSP (TAUROS) trial assessed the glycogen synthase kinase-3 inhibitor tideglusib as potential treatment. For the magnetic resonance imaging (MRI) substudy reported here, we assessed the progression of brain atrophy. TAUROS was a multinational, phase 2, double-blind, placebo-controlled trial in patients with mild-to-moderate PSP who were treated with oral tideglusib (600 mg or 800 mg daily) or with placebo for 1 year. A subset of patients underwent baseline and 52-week MRI. Automated, observer-independent, atlas-based, and mask-based volumetry was done on high-resolution, T1-weighted,
three-dimensional data. For primary outcomes, progression of atrophy was compared both globally (brain, cerebrum) and regionally (third ventricle, midbrain, pons) between the active and placebo groups (Bonferroni correction). For secondary outcomes, 15 additional brain structures were explored (Benjamini& Yekutieli correction). In total, MRIs from 37 patients were studied (placebo group, N = 9; tideglusib 600 mg group, N = 19; tideglusib 800 mg group, N = 9). The groups compared well in their demographic characteristics. Clinical results showed no effect of tideglusib over placebo. Progression of atrophy was significantly lower in the active group than in the placebo group for the brain (mean ± standard error of the mean: -1.3% ± 1.4% vs. -3.1% ± 2.3%, respectively), cerebrum (-1.3% ± 1.5% vs. -3.2% ± 2.1%, respectively), parietal lobe (-1.6% ± 1.9% vs. -4.1% ± 3.0%, respectively), and occipital lobe (-0.3% ± 1.8% vs. -2.7% ± 3.2%, respectively). A trend toward reduced atrophy also was observed in the frontal lobe, hippocampus, caudate nucleus, midbrain, and brainstem. In patients with PSP, tideglusib reduced the progression of atrophy in the whole brain, particularly in the parietal and occipital lobes.

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