Material and methods: 40 patients (27 female) and 40 healthy, age, sex and IQ matched controls were included. The MS clinical manifestations were evaluated according to EDSS by a qualified neurologist. Beck depression inventory II was used for depression. We used Wisconsin Card Sorting Task (WCST) and Time Perception Task (TPT) for DLPFC and Iowa Gambling Task (IGT), Delayed Discounting Task (DDT) and Balloon Analogue Risk Task (BART) for assessment of VMPFC functions.

Results: MS patients had more perseveration errors (15.49 VS 8.77) (P=0.007) in WCST. In TPT patients tend to over-estimate and over-reproduce time intervals. MS patients have more delay in selection of risky choices cards on IGT, (3.39 seconds vs 2.48 seconds). In DDT patients have lower discounting amounts over delays. In Bart patients have lower levels of risky behavior tendency.

Conclusion: Decision making is being processed logically in dorsolateral and emotionally in ventromedial parts of prefrontal cortex. According to our study, MS patients follow a "conservative strategy" in their decision makings both logically and emotionally. This may be explained by ''multiple disconnection syndrome'' seen in MS particularly in frontal lobes or because of the specific effects of disease-stigma burden on patients' behavior.slowing of information processing speed as a primary causative factor must be mentioned.

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Evoked far-field potentials originating from the brainstem – new diagnostic possibilities for alzheimer's disease?

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Background and aims: Recently, the vagus nuclei in the brainstem have come into the focus of interest in psychiatric and neurological research mainly for two reasons: Firstly, their function is altered early in the course of Alzheimer's disease (AD; Parvizi et al., 2001). Secondly, in a small pilot study the electrical stimulation of the left vagus nerve in the neck by means of an implanted stimulator has shown to improve cognitive impairments in patients with AD (Sjogren et al., 2002).

Methods: Based on these findings a method for the non-ionvasive measurement of far-field potentials from the vagus nuclei evoked by means of an electrical stimulation via a peripheral branch of the nerve in the outer ear is a potentially interesting diagnostic procedure.

Results: Vagus Sensory Evoked Potentials (VSEP) can be elicited in a reliable manner in younger and elderly healthy subjects. VSEP-latencies have been found to increase with age in healthy subjects. In a first clinical application, VSEP-latencies in patients with mild to moderate AD were found to be prolonged as compared to age-matched healthy participants.

Conclusions: This new, none-invasive measure is very easy to apply and may be a disease marker for AD, possibly also in preclinical stages. Further studies are necessary which systematically investigate changes in VSEP measures in patients with neurodegenerative disorders in order to elucidate their diagnostic specifity and validity.

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Cognitive effects of a prolonged-release formulation of galantamine (PRC) in patients with alzheimer's disease (AD) - an open-label phase-IIIb-study

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Background: Randomized controlled clinical trials demonstrated efficacy of galantamine-PRC in the treatment of AD-patients. Objectives of this clinical trial were to further study the overall effect of galantamine-PRC on cognition and function in patients with AD.

Methods: Open-label, multi-center clinical trial (GAL-DEM-3002). Patients with mild to moderate AD (NINCDS-ADRDA criteria) received 16-24 mg/day galantamine-PRC for 6 months. Primary objectives were to examine the effects on cognitive function using ADAS-cog and DemTect. Response-rate at endpoint was defined as percentage of patients with change in ADAS-cog of 0 or less. Statistical analyses based on intent-to-treat population (LOCF, t-test, Wilcoxon-test for dependent samples).

Results: 133 patients (48% with mild, 52% with moderate AD; mean age±SD 75.4±7.8 years; 68% women) were enrolled, 71% of patients completed the study. 53% of the patients received 24mg/day galantamine-PRC. After 6 months mean total scores changed significantly, both in ADAS-cog, from 23.3±9.3 (baseline) to 20.4±9.7 ($p<0.0001$) and DemTect from 7.3±2.9 to 9.2±4.3 ($p<0.0001$). The response-rate was 64.2%. CGI demonstrated an improvement or stabilization for 83% of patients. 64% of the patients had at least one AE. Most frequent AEs (>5%) were nausea, vomiting and headache. 28 patients discontinued due to AEs. 15 patients experienced a serious AE with 3 SAEs thereof considered as possibly related to study medication (syncope, hypotension, agitation). 2 deaths (sudden death, renal failure) were rated as unrelated to galantamine-PRC.

Conclusions: This clinical trial supports the evidence from placebo-controlled trials that galantamine-PRC is tolerated and effective in the treatment of AD-patients in a clinical setting.

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Cognitive function in patients with alzheimer's dementia and concomitant cerebrovascular disease treated with galantamine - a one year open-label phase-IIIb-study

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Background: Galantamine has been demonstrated to be effective and generally safe in patients with Alzheimer's disease and cerebrovascular pathology (AD+CVD) in placebo-controlled trials. The aim of this open-label clinical trial (GAL-GER-5) was to observe cognitive function during long-term treatment with galantamine in patients with AD+CVD.

Methods: Open-label, multi-center clinical trial (phase IIIb). Patients with mild to moderate AD+CVD (meeting NINDS-AIREN criteria) received galantamine (4-12 mg bid) for 12 months. Cognitive function was examined using the AKT ("Alters-Konzentrations-Test") and DemTect. Statistics were based on intent-to-treat population (LOCF, t-test and Wilcoxon-test for dependent samples).

Results: 84 patients (43% with mild, 56% with moderate AD+CVD; mean age±SD 75.5±6.8 years; 58% women) were enrolled. 80% of the patients completed the study. Modal daily galantamine dose was 16mg for 44%, and 24mg for 51% of the patients. After 12 months mean total score in AKT showed a stabilization from 49.0±6.7 (baseline) to 49.2±6.9 ($p=0.7807$) and DemTect increased significantly from 7.8±2.0 to 9.4±3.9 ($p<0.0001$). CGI demonstrated an improvement or stabilization for 71% of patients. 56% of the patients had at least one adverse event (AE). Most frequent AEs

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