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Language

Beneficial effects of pharmacological treatment in post-stroke dynamic aphasia: a behavioural and neuroimaging study

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Introduction: *Dynamic Aphasia (DA) is a rare form of language disorder characterized by reduced spontaneous speech with preservation of other language functions. Two types of DA have been described: language-specific type (type I DA) and domain-general type (type II DA). In type I DA, deficits are selective for word and sentence generation, whereas in type II DA impairments affect discourse generation, narrative, fluency, and non-verbal generation tasks. There is little information on the treatment of DA. Although treatment with a cognitive enhancing drug (bromocriptine) improved outcome in previous studies, pharmacological interventions combining two drugs acting on other neurotransmitter systems in DA have not been reported so far.*

Methods: *We report an open-label pharmacological single case study (n = 1) in a male patient with a chronic type I/II DA secondary to an ischemic infarction in the left fronto-opercular and insular regions. After baseline evaluation, the patient received donepezil 5 mg/day (2 months), donepezil 10 mg/day (2 months), donepezil 10 mg/day plus memantine 20 mg/day (4½ months) followed by a washout period (1½ months). No speech-language therapy was used. A comprehensive cognitive and language evaluation was carried out at baseline and at different endpoints. 18FDG-PET was performed at the four timepoints.*

Results: *Donepezil (5 mg/day) significantly improved type I DA features (normalization of verbs generation, p = 0.01), whereas donepezil (10 mg/day) improved some type II features (normalizing spontaneous speech, verbal fluency and improving generation of novel thoughts, p = 0.004), along with improvement of executive-attentional functioning. Combined therapy further enhanced cognitive function, but did not additionally improved DA. 18 FDG-PET revealed significant reductions of perilesional hypometabolic activity mainly after donepezil (10 mg/day) and washout.*

Discussion:*Treatment with donepezil improved language deficits in a patient with chronic post-stroke type I/II DA. Combined therapy (donepezil plus memantine) further enhanced executive-attentional functioning. Beneficial changes were associated with improvements in perilesional metabolic activity.*

References: *Luria AR et al.Acta Neurologica et Psychiatrica (1967).*
Robinson G et al. Brain (1998).

Keywords: Language; patients; single case study; adults; cerebrovascular; behavioural, functional imaging.

First author: Are you interested in a Oral presentation during the Small Group evening meetings? No
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Unfortunately this abstract has arrived too late for the *EWCN Prize selection*. ok

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