

Objective: Previous studies have reported that the structure and function of the striatum are important in bvFTD, and the striatum can be divided into more subregions. Changes within brain regions has recently attracted increasing attention, but most studies have explored the relationship between the striatum and other brain regions. Therefore, the aim of this study was to explore the changes in the intra-striatal resting-state functional connectivity (RSFC).

Methods: We acquired fMRI data from 26 bvFTD patients and 36 healthy controls. The Human Brainnetome Atlas was used to define the spatial extent of the striatum and delineate its subregions. Intra- and extra-striatal FC values were then calculated for each individual and compared between bvFTD and control groups.

Results: Compared to healthy controls, bvFTD showed decreased intra-striatal FC. Both intra-hemispheric and inter-hemispheric functional connectivity were compromised. There was also a gradient reduction in terms of the functional connectivity within striatum: the left dorsolateral putamen showed most decrease and the left ventral caudate exhibited the least (Fig 1). The extra-striatal FC between striatum and the insula was also decreased.

Conclusion: The loose intra-striatal functional connectivity may underly the neural substrate of bvFTD.

FC22: Changes in inhibitory control in older adults: Diminished inhibitory efficiency or slowing of general processing speed?

Authors: *Luís Pires^{1,2,3}, Sara Martins¹, Soraia Lopes¹, Isabel M. dos Santos⁴, Chiara Guerrini⁵, Ana A. Gomes^{1,2}, & José A. Leitão^{1,2}*

Affiliations:

¹*Faculty of Psychology and Educational Sciences, University of Coimbra, Coimbra Portugal*

²*Center for Research in Neuropsychology and Cognitive and Behavioral Intervention (CINEICC), Coimbra, Portugal*

³*Faculty of Human and Social Sciences, Department of Psychology and Education, University of Beira Interior, Covilhã, Portugal.*

⁴*Department of Psychology and Education, University of Aveiro, Aveiro, Portugal.*

⁵*Department of Psychology, School of Life Sciences, University of Hull, United Kingdom*

Background: Age-related losses in cognitive control efficiency in the face of response conflict are commonly reported in ageing research. However, it is unclear to what extent this effect reflects changes in actual inhibitory control, or the well-known age-related slowing of processing speed.

Methods: We compared young ($n = 42$; 29 women; *mean age* = 19.6 years; *mean formal education* = 13 years) and older adults ($n = 42$; 27 women; *mean age* = 68.7 years; *mean formal education* = 12.8 years) using a spatial Stroop task. Participants responded to the direction of an arrow, ignoring its position. Direction and position could be congruent, incongruent or neutral (respectively low, high and no conflict trials). The level of conflict in

trial $n-1$ (high or no conflict) modulated the level of adaptive control in the n^{th} trial. We used multivariate analyses of variance to probe age-group effects on inhibitory efficiency, adaptive (high conflict $n-1$ trial) and momentary (no conflict $n-1$ trial). We analysed accuracy and direct as well as proportional reaction times, which respectively integrate and control for differences in general processing speed.

Results: Older participants showed a larger overall Stroop effect in both direct [Wilks' $\lambda = .61$, $F(2,81) = 25.99$, $p < .001$] and proportional reaction times [Wilks' $\lambda = .79$, $F(2, 81) = 10.55$, $p < .001$]. Controlling for differences in general processing speed did not impact age-group effects on momentary inhibitory efficiency [$F(1,82) = 17.78$, $p < .001$], but eliminated a trend for poorer adaptive inhibitory control in the older group [$F(1, 82) = .198$, $p = .657$]. As for accuracy, we unexpectedly found a larger Stroop effect for the younger group [Wilks' $\lambda = .79$, $F(2, 81) = 11.07$, $p = .001$].

Conclusion: Older and younger adults are as effective in using previous response conflicts to prepare for current conflict resolution. Older adults' lower momentary inhibitory effectiveness likely reflects age-related slowing of processing speed as well as, to a degree to be determined in future research, larger strategic reaction times investment in accuracy enhancement.

Funding: BIAL Foundation (Grant 234/14)

FC23: Dementia and Triadic (Doctor-Patient-Carer) Interactions in Primary Care

Authors: C. Balsinha 1, F. Barreiros 1, M.J. Marques 2, S. Dias 2, S. Iliffe 3, M. Gonçalves-Pereira 1

1 CHRC, NOVA Medical School, Universidade NOVA de Lisboa, Lisbon, Portugal

2 CHRC, National School of Public Health, Universidade NOVA de Lisboa, Lisbon, Portugal

3 University College London, United Kingdom

Presenting author: Manuel Gonçalves-Pereira (gpereira@nms.unl.pt)

Objective:

Primary care visits of persons with dementia often bring together triads composed of patients, family carers and general practitioners (GPs), as previously discussed (1). Communication dynamics potentially affect dementia outcomes, not least because primary care is a health setting where these triad encounters often occur naturally. Our aim is to present further data from Portuguese primary care consultations with persons with dementia, their carers and GPs.

Methods:

We refer to the conclusion of our study 'Dementia in Primary Care: the Patient, the Carer and the Doctor in the Medical Encounter - Bayer Investigation Grant | NOVAsaúde Ageing 2018' (1). Fieldwork was interrupted during