

Characterizing the clinical and neuroimaging profile of progressive dynamic aphasia: a case series

Petronilla Battista, Andrea Gajardo-Vidal, Maxime Montembeault, Valentina Borghesani, Michael Erkinen, Buddhika Ratnasiri, Nina F. Dronkers, Maya L. Henry, Bruce L. Miller, Zachary A. Miller, Maria Luisa Mandelli, Diego L. Lorca-Puls, Maria Luisa Gorno Tempini

Progressive Dynamic Aphasia (PDA) is increasingly recognized as a presentation of FTD-spectrum disorders, whose pathognomonic features are reduced drive to participate in conversations and diminished verbal output. Due to the lack of verbal fluency and motivation to initiate conversation (i.e., abulia), these clinical features of patients with PDA may partially overlap with those of the non-fluent/agrammatic primary progressive aphasia (nfvPPA) and/or behavioral variant frontotemporal dementia (bvFTD).

We retrospectively searched for patients, within our large database, characterized by a progressive impairment of propositional language, with otherwise relatively preserved naming, repetition, and auditory comprehension skills, who did not fulfill criteria for PPA/bvFTD. Via structural neuroimaging, we investigated whether there were any differences in the degree and pattern of grey matter atrophy between these patients and (i) nfvPPA, (ii) bvFTD, (iii) healthy controls.

We identified five patients that shared a common, defining clinical feature: “apathy for language”. Their spontaneous speech consisted of short sentences/incomplete responses, long latencies, unwillingness to speak and a limited and repetitious repertoire. Mild behavioral change, executive dysfunction, and/or motor speech impairment was also noted across these patients, albeit less consistently. Collectively, patients with PDA showed greater grey matter loss within medial and lateral aspects of the left dorsal prefrontal cortex compared to nfvPPA patients (n=44), bvFTD patients (n=60), and healthy controls (n=155).

PDA sits in between nfvPPA and bvFTD in the context of the FTD-spectrum disorders. Current speech-language assessment needs to be enriched with new tasks specifically designed to capture the main clinical features of patients with PDA.

Conflicts of interest

The authors declare no conflict of interest.