

Evaluation of language pragmatics in patients with prodromal to mild dementia with Lewy bodies

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INTRODUCTION

Dementia with Lewy bodies (DLB) is likely to induce communication impairments in mild to moderate stages. Given the paucity of studies on language pragmatics in the early stages of DLB, our aim was to evaluate language pragmatics in prodromal and mild DLB and to assess the potential link between pragmatic skills and attentional and executive abilities.

METHODS

Participants: 20 DLB patients in the prodromal or mild stages and 19 healthy control participants matched in terms of age, gender and socio-educational level.

Language pragmatics evaluation protocol

Tests from the MEC-P (Montreal Protocol for the Evaluation of Communication) and the GréMots battery, to assess the main pragmatic components: lexical-semantic, inferential, discursive and communication aspects.

Executive and attentional functions assessment

Lexical and categorical fluency, TMT-A and TMT-B, Digit spans forward/backward, and the Frontal assessment battery (FAB).

Statistical analyses

Comparative statistical analyses between the two groups were performed on the pragmatic language scores, and correlational analyses were conducted on both groups of participants separately, to explore the link between the pragmatic language scores and the scores obtained in the attentional and executive tests.

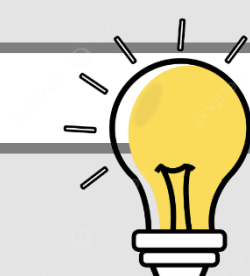
RESULTS

Demographic and clinical characteristics of DLB patients and control participants

Characteristics	Group		Statistic test	p
	DLB (n=20)	HCP (n=19)		
Age	75.250 (9.089)	73.000 (8.825)	t = 0.784	0.438
Gender (M/F)	11/9	7/12	$\chi^2 = 1.292$	0.256
EL (years)	12.450 (3.692)	13.684 (0.667)	t = -1.156	0.255
MMSE score	26.950 (2.946)	29.158 (0.834)	U = 82.500	0.002
Hallucinations (/9)	2.000 (1.886) ⁱ	0.400 (0.828) ^j	U = 226.500	0.002
Fluctuations	3/4/8/4/1	13/2/0/0/0 ^j	$\chi^2 = 19.602$	< .001
Akinesia	9/7/2/2/0	18/1/0/0/0	$\chi^2 = 11.482$	0.009
Rigidity	9/10/1/0/0	18/1/0/0/0	$\chi^2 = 11.345$	0.003
Tremor at rest (0/1)	19/1	19/0	$\chi^2 = 0.975$	0.323
RBD	7/7/6	11/2/2 ⁱ	$\chi^2 = 5.056$	0.080

DLB patients showed significantly lower scores than control participants for metaphor interpretation ($p = 0.002$), speech act interpretation ($p < 0.001$), conversational discourse ($p < 0.001$), narrative discourse ($p < 0.001$) and sentence elaboration ($p < 0.001$). Caregivers of DLB patients gave significantly lower scores than caregivers of control participants on the questionnaire assessing their relative's communication skills ($p < 0.001$). Additionally, scores in language pragmatics, particularly in conversational discourse, correlated with most attentional and executive measures, but only for the patient group.

CONCLUSION



Patients with prodromal to mild DLB present disorders in all the assessed aspects of language pragmatics: lexical-semantic, inferential, discursive and conversational. These difficulties could be linked, at least partially, to early executive dysfunction.

References

McKeith et al. (2017) Diagnosis and management of dementia with Lewy bodies: fourth consensus report of the DLB Consortium. *Neurology*
 McKeith et al. (2020). Research criteria for the diagnosis of prodromal dementia with Lewy bodies. *Neurology*

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