



## SPECIFIC MEASURES OF VERBAL MEMORY PERFORMANCES MAY DISTINGUISH ALZHEIMER'S DISEASE FROM DEMENTIA WITH LEWY BODIES

*C. Bussè<sup>1</sup>, P. Anselmi<sup>2</sup>, G. A. Di Bernardo<sup>3</sup>, S. Pompanin<sup>1</sup>, G. Zorzi<sup>1</sup>, C. Semenza<sup>1</sup>, P. Caffarra<sup>4</sup>, A. Cagnin<sup>1</sup>*

### Objective

To comprehend if specific measures of verbal memory (learning, forgetting and serial position effects) in a widely used specific cognitive task (**Rey's Auditory Verbal Learning Task [RAVLT]**) could increase diagnostic accuracy of dementia with Lewy bodies (DLB) from AD.

### Method

32 AD and 29 DLB patients were enrolled in the study and followed longitudinally for 3 years until the diagnosis were made. 28 normal elderly subjects served as controls (NC). All subjects underwent a baseline neuropsychological assessment including the RAVLT.

Specific verbal memory measures were evaluated:

❖ **Verbal learning (VL)**

[immediate recall test: trial 5 minus trial 1]

❖ **Verbal forgetting (VF)**

[trial 6 of delayed recall minus trial 5 of immediate recall]

❖ **Percentage of verbal forgetting (%VF)**

[verbal forgetting/trial 5 \*percentage]

❖ **The serial position effects of immediate recall**

[first and last 4 list-item of trial 1]

### Results

The performances of DLB and AD were evidently comparable in the immediate and delayed recall of the RAVLT (IC=95%).

❖ Regarding the verbal memory measures, **DLB had a higher VL than AD** ( $p < 0.05$ ) and AD obtained a greater %VF than DLB ( $p = 0.001$ ).

❖ Logistic regressions demonstrated that %VF may be considered a **predictive marker of the type of disease** ( $T = -0.02$ , Wald (1) = 4.85,  $p = 0.028$ ).

❖ With a cut-off of  $\geq 75\%$  at the %VF, **58% of AD versus 21% of DLB patients lying above the cut-off.**

❖ Considering the **serial position effects**, a different **recency effect** between AD and DLB was found ( $p < 0.05$ ), with an increasing slope at the end of the curve for the AD and reduction for the DLB.

### Discussion

The Percentage of verbal forgetting index may be considered a **predictive marker of the type of disease (AD or DLB)**. Moreover, the %VF together with the **verbal learning** and **recency effect**, are measures that could help in differentiate DLB from AD.

<sup>1</sup> Department of Neurosciences, University of Padova, Italy

<sup>2</sup> FISPPA, University of Padova, Italy

<sup>3</sup> Department of Education and Humanities, Unimore, Reggio Emilia

<sup>4</sup> Department of Neuroscience, University of Parma, AUSL of Parma, Italy

### Specific Verbal Memory Measures calculated from the RAVLT:

