Neurological soft signs in dementia: an adjunct tool for global screening?

L. Tremolizzo,[1,2] G. Fiamingo,[2] E. Conti,[2] A. Aliprandi,[3] C. Ferrarese,[1,2] I. Appollonio[1,2]

[1]Neurology Unit, San Gerardo hospital, Monza; [2]School of Medicine and Surgery, University of Milano-Bicocca; [3]Neurology, Manzoni hospital, Lecco; Italy

Neurological soft signs (**NSS**) are minor semeiotic abnormalities seen also in healthy subjects that correlate with minor dysfunctions along the cerebello-thalamo-prefrontal brain network. Aim of this preliminary work was assessing the feasibility of a dementia-dedicated NSS battery across an outpatient population consecutively seen at the Memory Clinic, assessing also possible cognitive and behavioural correlates.

Materials and Methods: 50 mildo-to moderate AD patients, 10 FTD, 15 CBS or LBD were recruited at the Memory clinic of the San Gerardo hospital (Monza, Italy) together with 25 +10 CTRL. Each patient was tested with the CDR, MMSE, FAB, NPI-12; for NSS, the 6-items dementia-modified Heidelberg scale was used: possible total scores ranges from 0 (best performance) to 18 (worst performance). See **TABLES 1-2-3**.

Table 1	AD n=50	CTRL-AD n=25
Sex M/F	22/28	7/18
Age yrs	78,3 ± 4,4 (67 – 87)	75,6 ± 5,6 (65 – 87)
Education, yrs	7,0 ± 3,9 (2 – 18)	8,2 ± 4,1 (3 – 18)

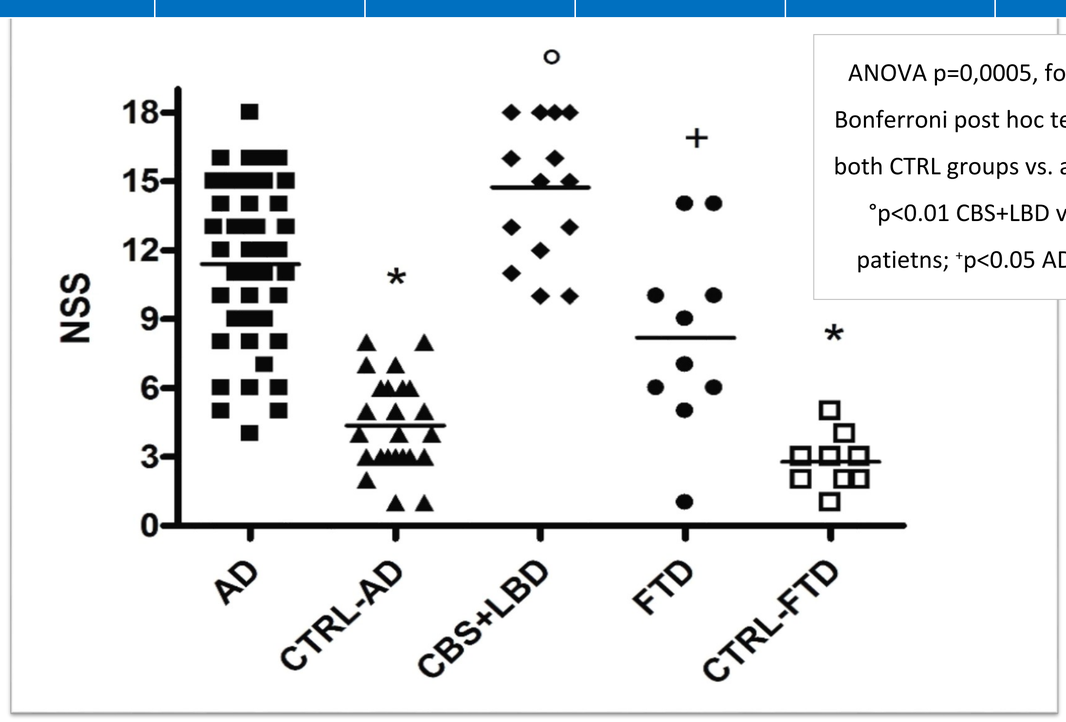
Table 2	FTD n=10	CBS+LBD n=15	CTRL-FTD n=10
Sex M/F	6/4	9/6	6/4
Age yrs	66,6 ± 6,1 (58 – 78)	78,3 ± 4,9 (68 – 86)	66,4 ± 6,5 (56 – 77)
Education yrs	11,2 ± 5,2 (5 – 18)	9,7 ± 4,7 (3 – 18)	11,9 ± 4,2 (5 – 18)

	AD n=50	CTRL-AD n=25	FTD n=10	CBS+LBD n=15	CTRL-FTD n=10
Disease Duration mo €	32,3 ± 24,8 (3 – 89)	N/A	26,5 ± 34,3 (3 – 122)	43 ± 32,2 (7 – 130)	N/A
MMSE °	19,2 ± 4,6 (11 – 26)	29,3 ± 1,0 (27 – 30)	22,5 ± 6,4 (7 – 28)	19,3 ± 4,0 (0 – 28)	29,8 ± 0,7 (28 – 30)
FAB °	10,2 ± 4,1 (4 – 18)	17,6 ± 0,9 (15 – 18)	12 ± 5,0 (4 – 18)	8,1 ± 3,5 (3 – 16)	18 ± 0 (18 – 18)
NPI-10 €	11,1 ± 13,2 (0 – 71)	N/A	19,9 ± 20,3 (1 – 65)	12,2 ± 8,5 (0 – 31)	N/A
Drugs	24% D ‡ 12% N † 30% AchEi* 30% M*	N/A	30% D 40% N 0 AchEi 0 M	46% D 33% N 33% AchEi 20% M	N/A

D, Antidepressant; N, Neuroleptic; AchEi, Anticholinesterase; M, Memantine. €ANOVA ns; °ANOVA p<0.0001, followed by Bonferroni post hoc test p<0.01 any patient vs. CTRL; †χ^2 6.16, p<0.05; ‡χ^2 ns; *3 patients in combined therapy.

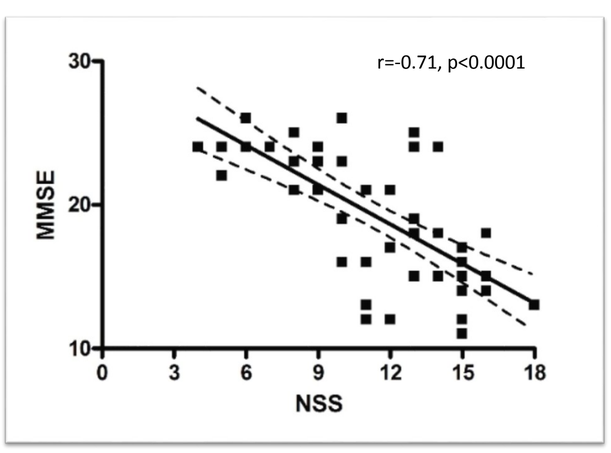
Results (see FIGURE on the right)
NSS were about threeefold increased in patients, regardless of the diagnosis, versus CTRL. However, parkinsonism-dementia (CBS+LBD) patients performed worse (~30%) than AD that performed worse than FTD patients (~30%). This result was confirmed at the covariate analysis, correcting for age, disease duration, MMSE, FAB and NPI-10 scores (p<0,003).

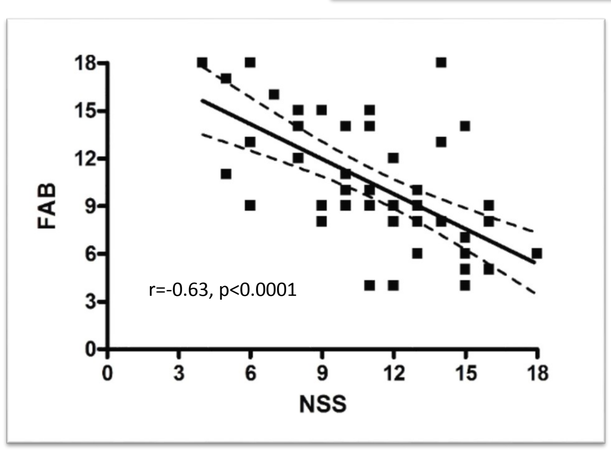
Furthermore, a correlaion was present in AD patietns between NSS scores and MMSE or FAB ones and disease duration (see FIGURES BELOW).

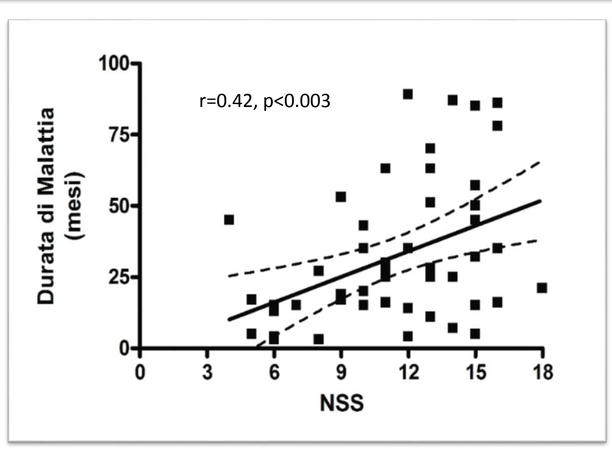


ANOVA p=0,0005, followed by Bonferroni post hoc test *p<0.05 both CTRL groups vs. all patients; °p<0.01 CBS+LBD vs. other patietns; +p<0.05 AD vs. FTD.

In AD patients







Discussion: NSS values correlate with cognitive dysfunction in dementia outpatients. Further studies are needed in order to understand if they can be used as an adjunct tool for global screening in the outpatient routine setting.

Sin

XLVII CONGRESSO NAZIONALE
14-17 OTTOBRE 2017 – NAPOLI

WebPoster