



INVESTIGATING PREDICTORS OF SUICIDE RISK IN PATIENTS WITH FRONTOTEMPORAL

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BACKGROUND

Behavioral variant Frontotemporal Dementia (bvFTD) is a clinically heterogeneous syndrome characterized by changes in personality, behavior and language, associated with degeneration in frontal and temporal lobes.

The risk for suicide in patients with dementia, although controversial, is generally considered low (1). However, a growing body of research suggests that mood changes, cognitive impairment, and awareness of disease, may make patients with dementia more vulnerable to suicidal behavior.

At present, the risk for suicide in patients with bvFTD has been assessed only through case reports and retrospective studies (2).

AIM OF THE STUDY

The aims of this study were to determine the prevalence of both suicidal ideation and suicidal attempts in a population of selected patients with bvFTD in comparison with a control group, and to evaluate possible risk factors of suicidality using an extensive neuropsychological and neuropsychiatric evaluation.

SUBJECTS & METHODS

TABLE 1. Demographic characteristics of the experimental sample.

	bvFTD SR	bvFTD NSR	Controls
Gender (M/F)	7/7	11/10	8/17
Age (years)	68,07±7,17	71,52±5,44	65,12±7,44
Schooling (years)	8,64±3,65	8,71±4,47	12,16±4,54
CDR	1,04±0,66	1,06±0,51	0,06±0,17

Legend: M= male; F= female; CDR= Clinical Dementia Rating Scale.

TABLE 2. Neuropsychological and Functional assessment synopsis.

	bvFTD SR	bvFTD NSR	Controls
MMSE	24,14±3,39	23,71±2,78	29,40±0,71
TMT_A	121,92±124,11	103,41±76,86	39,80±13,07
TMT_B	312,75±137,88	290,80±174,09	91,30±56,74
RME	16,64±4,12	18,00±5,74	22,75±3,85
TT	33,04± 2,39	32,12±2,60	35,76±0,72
ADL	4,83±1,53	5,71±5,05	6,00±0,00
IADL	5,25±2,42	5,05±2,16	7,96±0,20

Legend: MMSE= Mini-Mental State Examination; TMT= Trial Making Test; RME = Reading the Mind in the Eyes test; TT= Token Test; ADL= Activity of Daily Living Scale; IADL= Instrumental Activity of Daily Living Scale.

- Thirty-five bvFTD patients (18 men, 17 women; mean age± SD: 70.14 ±6.33 years) attending the Memory Clinic of the Department of Neuroscience of the University of Torino, were recruited.
- The diagnosis was performed according to the International Behavioral Variant Frontotemporal Dementia Criteria Consortium (FTDC) (3).
- Patients underwent extensive clinical, neuropsychological, and neuroradiological investigations. The clinical diagnosis was supported by CSF biomarkers.
- A group of 25 healthy subjects (8 men, 17 women; mean age ± SD: 65.1 ± 7.4 years) served as controls.
- Suicide risk was measured using the Scale for Suicide Ideations (SSI), a 19-item semistructured interview, evaluating self-destructive and suicide thoughts within a week, and previous suicide attempts. A score ≥6 has been used as threshold for suicidal ideation.
- bvFTD patients were further divided in two groups according to the score obtained at SSI: 14 patients with suicide risk [bvFTD SR] (Ten subjects with suicide ideation and four patients who have attempted suicide) and 21 patients with no suicide risk [bvFTD NSR].
- Demographic and clinical variables (Table 1) were compared using T-test and χ^2 . Neuropsychological and neuropsychiatric aspects were compared between groups using T-test (Table 2).
- SPSS 21.0 was used for all other statistical analyses, $p < 0.05$ was considered as significant.

RESULTS

- According to SSI scores, 40.0% of bvFTD patients has suicidal ideation, in comparison to 8.0% of controls. Four (11.4%) bvFTD have attempted suicide versus none control ($p=0.006$).
- bvFTD patients with extrapyramidal signs had higher level of suicide ideation (OR= 15; 95% CI: 1.55-145.23, $p=0.019$).
- bvFTD SR patients showed a higher level of depression, anxiety, stress and hopelessness compared with bvFTD NSR ($p < 0.001$) (Figure 1).
- bvFTD SR patients who have attempted suicide were younger ($p < 0.05$) and with a longer disease duration ($p=0.007$) than bvFTD SR with only suicide ideation.

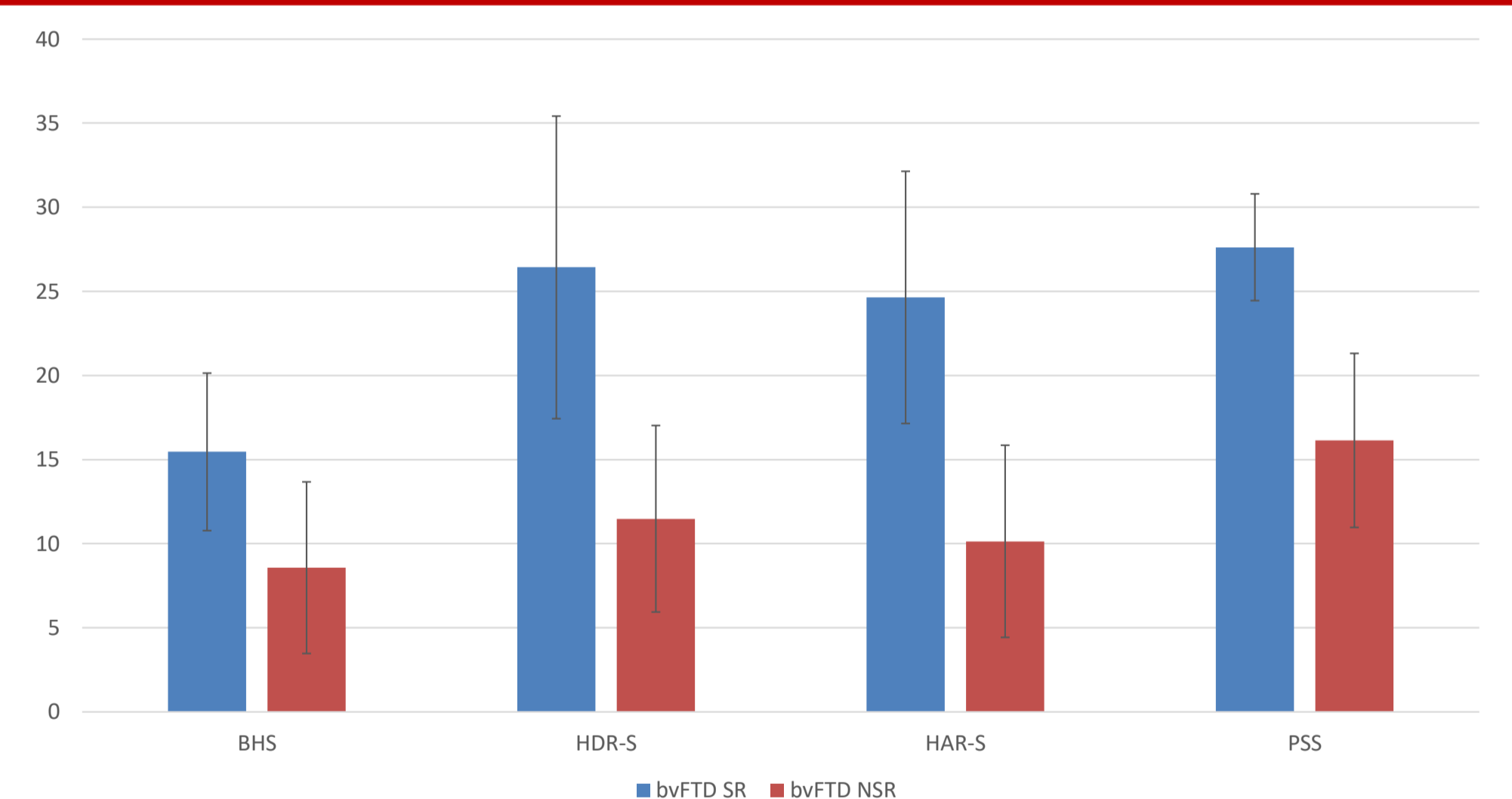


Figure 1. Means of scores in scales evaluating hopelessness, depression, anxiety and stress between bvFTD patients with SR and bvFTD with no SR. * $p < 0.01$

Legend: BHS: Beck's Hopelessness Scale; HDR-S: Hamilton Depression Rating Scale; HAR-S: Hamilton Anxiety Rating Scale; PSS: Perceived Stress Scale.

DISCUSSION & CONCLUSIONS

The results of our study, conducted according to a case-control strategy, showed that patients with behavioral variant FTD are at high risk of suicide. Approximately 40% of our patients presented a suicidal ideation and more than 10% attempted suicide.

In addition, our data showed that in bvFTD patients there is a high association between risk of suicidal behavior and neuropsychiatric aspects such as anxiety, depression, stress and hopelessness.

An intriguing association between parkinsonian symptoms and suicide risk was observed.

Neurobiological basis of suicide risk in bvFTD are at present unknown. Additional studies are needed in order to investigate the pathogenic mechanisms and clinical relevance of our findings.

Finally, we suggest that suicide risk should be considered when evaluating patients with bvFTD, in particular in young age.

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