Behavioural Variant Fronto-temporal Dementia (bvFTD)

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Behavioural variant frontotemporal dementia (bvFTD) is the most common form of frontotemporal dementia and is primarily characterised by progressive **changes in personality, social behaviour, and executive functioning**. Unlike Alzheimer's disease, which typically begins with memory impairment, bvFTD presents with marked alterations in behaviour and emotion, often preceding any significant memory deficits. Understanding this syndrome is vital for clinical neuropsychologists involved in diagnosis, management, and support for patients and their families.

Core Clinical Features of Behavioural Variant frontotemporal Dementia

bvFTD is notable for its early, insidious changes in personality and interpersonal functioning. The main features often include the following:

Personality and Behavioural Change

- **Loss of Inhibition:** There may be socially inappropriate behaviour, tactlessness, impulsivity, or disregard for social norms.
- **Apathy or Loss of Motivation:** Patients frequently display profound apathy, with diminished interest in work, hobbies, or social interactions.
- **Emotional Blunting:** A notable decrease in emotional warmth, empathy, and responsiveness to others is common.
- **Reduced Insight:** Those affected may demonstrate a lack of awareness or concern regarding their own behavioural changes or impact on others.
- **Perseverative or Compulsive Behaviours:** Repetitive actions, rituals, or stereotyped routines may emerge, such as simple repetitive activities or rigid daily schedules.

- **Altered Eating Habits:** Changes in food preferences, especially a tendency for sweet foods and overeating, are well described.

Executive Dysfunction

- **Impaired Planning and Organisation:** Deficits in problem-solving, judgment, and multi-step tasks become increasingly apparent.
- **Difficulties with Flexibility:** Patients often struggle to adapt to new circumstances or shift approaches in response to feedback.
- **Poor Decision-Making:** Risky or uncharacteristically poor choices may be made in personal, social, or financial matters.

Relative Sparing of Memory and Visuospatial Skills

- Unlike Alzheimer's disease, memory and visuospatial processing are often relatively intact in early bvFTD, though these domains may become more affected as the condition progresses.

Differential Diagnosis in Behavioural Variant frontotemporal Dementia

Thorough neuropsychological assessment is needed to distinguish bvFTD from other neuropsychiatric or neurodegenerative conditions with overlapping symptoms.

Alzheimer's Disease

- While late-stage Alzheimer's disease can feature behavioural disturbances, early Alzheimer's usually presents with forgetfulness and disorientation, which are not prominent early features in bvFTD.

Primary Psychiatric Disorders

- Depression, bipolar disorder, or late-onset schizophrenia may cause personality and behaviour changes. However, bvFTD is distinguished by its relentless progression, new-onset social inappropriateness, and lack of psychotic features such as hallucinations or delusions.

Nonfluent/Agrammatic and Semantic Variants of Primary Progressive Aphasia

- Language-led FTD syndromes such as nonfluent/agrammatic PPA or semantic variant PPA primarily impact language skills before causing broader behavioural disturbance, whilst bvFTD is defined by early behavioural and executive symptoms.

Dementia With Lewy Bodies and Parkinson's Disease Dementia

- Dementia with Lewy bodies and Parkinson's disease dementia may have behavioural symptoms but are distinguished from bvFTD by prominent visual hallucinations, parkinsonian features, and fluctuating cognition.

Vascular Cognitive Impairment

- Behavioural symptoms may occur in Vascular cognitive impairment but usually in the context of a stepwise decline or clear vascular events on history and brain imaging.

Assessment Considerations in Behavioural Variant frontotemporal Dementia

Clinical neuropsychologists play a crucial role in evaluating bvFTD. Assessment should include:

Detailed Clinical Interview

- Obtain information from both the patient and informants, as lack of insight is common.
- Explore the timeline and progression of behavioural, emotional, and cognitive changes.
- Elicit examples of social, financial, or occupational problems arising from new behaviours.

Neuropsychological Testing

- **Executive Function:** Use measures such as verbal fluency, trail making, abstract reasoning, and set-shifting tasks.
- **Social Cognition:** Where possible, administer tasks assessing judgement, emotion recognition, Theory of Mind, or understanding of social cues.
- **Memory and Visuospatial Abilities:** These are often preserved relative to executive deficits in early bvFTD.

- **Behavioural Rating Scales:** Inventories or questionnaires (e.g. Frontal Behavioural Inventory) can be valuable in capturing informant-based observations of change.

Functional and Daily Living Assessments

- Determine loss of independence, changes in work or household management, difficulties with basic or instrumental activities of daily living, and impact on relationships.

Neuroimaging and Pathological Findings in Behavioural Variant frontotemporal Dementia

Brain MRI, SPECT and morphometry typically show **atrophy in the frontal and/or anterior temporal lobes**, often with **marked asymmetry**. Pathologically, there is degeneration of frontal and temporal cortices, most often due to abnormal accumulations of **tau or TDP-43 proteins**.

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MRI brain and nuclear medicine WBC SPECT of a 50-year old with "diagnosis almost certain" for behavioural variant frontotemporal dementia © Radiopaedia

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Sagittal brain morphometry of a 70-year old with "diagnosis almost certain" for behavioural variant frontotemporal dementia © Radiopaedia

Practical Implications of Behavioural Variant frontotemporal Dementia for Clinical Neuropsychologists

Diagnosis and Communication

- Early and accurate identification of bvFTD can help patients and families understand the nature and progression of the illness.
- Patients may lack awareness; therefore, sensitive but clear feedback to carers and family members is vital for acceptance of diagnosis and forward planning.

Intervention and Support

- Neuropsychological intervention and rehabilitation should focus on behavioural management strategies, environmental modification, and caregiver education.
- Support groups and psychoeducation for families are essential due to the burden of behavioural symptoms.
- Advance care planning should be discussed early given the progressive nature of bvFTD.

Legal, Financial, and Safeguarding Issues - Capacity Assessment

- Early loss of judgment and executive function may warrant assessment of **decision-making capacity** regarding finances, health, and driving.
- Liaise with relevant professionals as required to ensure patient and carer safety.

Longitudinal Monitoring

- Regular follow-up is recommended to reassess functional abilities, support requirements, and evolving risks.

Summary

Behavioural variant frontotemporal dementia is a progressive disorder primarily affecting behaviour, personality, and executive function. Early changes are often apparent as unexpected social, emotional, or personality disturbance, with relative preservation of memory. For clinical neuropsychologists, bvFTD demands a combination of comprehensive assessment, detailed informant history, and ongoing support for both patients and their families to address evolving needs as the condition advances.