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Sour aversion in frontotemporal dementia: A case report and review on physiologic-anatomic mechanisms

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Frontotemporal dementia (FTD) is a common cause of early-onset dementia and accounts for approximately 5-10% of all cases of dementia. FTD is characterized by a broad range of behavioural and personality changes manifested in apathy, emotional blunting, impulsiveness, and social withdrawal which, in turn, is associated with severe neural loss, predominantly involving frontal and temporal lobes. Eating abnormalities are assumed as one of the main symptoms for the diagnosis of behavioural variant FTD. They include overeating, profound alteration in appetite, especially sweet craving, and changes in eating habits. consequently, there may be significant weight gain due to overeating, especially high carbohydrate intake. Feeding disturbances may correlate with the loss of postsynaptic serotonin mostly located in the frontal lobe, hypothalamus, and striatum. we describe a case with a diagnosis of probable bvFTD that demonstrated progressive cognitive decline, more prominent in executive function and language domains. She had suffered from a lack of interest in activities; impairment in social behaviours and change in eating habits. These symptoms markedly affected her daily function. The examination showed severe ideomotor and ideational apraxia, difficulty in sequencing, frequent semantic paraphasia, absent of primitive reflexes including grasp. This pattern of atrophy explains the difficulty in the naming of objects and very low MoCA score. Neuropsychological assessment with Montreal Cognitive Assessment (MoCA) revealed severe impairment in all cognitive domains with a total score of 2 out of 30. The brain MRI of our patient had demonstrated asymmetric anterior temporal atrophy, which was more prominent on the left side. The unique presentation of our patient might reflect damage to limbic structure which is likely to be involved in unpleasant food perception for sour tastes.

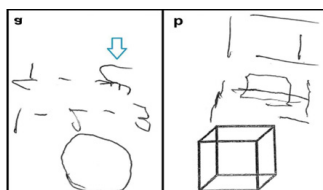


Figure 1: Clock drawing test (A) and copying a cube (B) showed significant impairment in executive/visuospatial function. In addition, the clock drawing test showed conceptual disorder (i.e., the concept of the clock is not perceived). The patient drew a circle with relative normal contour, while she wrote the numbers (i.e., 1 to 4 and the distorted letter form of five in Persian) outside the circle. The arrow represents the letter form of “5” in Persian without its dots (the true form of “five” in Persian is “چنپ”)

Recent Publications

1. Ahmed, R. M., Irish, M., Kam, J., Van Keizerswaard, J., Bartley, L., Samaras, K., ... Piguat, O. (2014). Quantifying the eating abnormalities in frontotemporal dementia. *JAMA Neurology*, 71(12), 1540-1546.
2. Almasi-Dooghaee, M., Rohani, M., Imani, A., Nadjafi, S., & Zamani, B. J. N. S. (2021). The role of transcranial sonography in differentiation of dementia subtypes: An introduction of a new diagnostic method, *Neurological science*, 42(1), 275-283.
3. Avery, J. A., Liu, A. G., Ingeholm, J. E., Riddell, C. D., Gotts, S. J., & Martin, A. (2020). Taste quality representation in the human brain. *Journal of Neuroscience*, 40(5), 1042-1052.

Biography

Taravat Vahedi is a first-year psychiatry resident at Roozbeh Hospital, Iran. She is aspiring to become a Psychologist.

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