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Emotion Processing in Frontotemporal Dementia

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Commentary

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Marshall, et al. [1] in their recent study on functional neuroanatomy of emotion processing in frontotemporal dementias (FTD) provide newer insights in terms of networks in FTD which may have implications for biomarker development and thus early diagnosis. Authors state that facial emotion processing in FTD is likely to require dynamic stimuli that closely resemble the naturalistic socio-emotional signals of daily life and have addressed these issues using simultaneous videos of dynamic facial expressions and functional MRI. Though an ideal way of performing the study, but patients with FTD syndromes especially behavioural variant FTD (by FTD) have inattention, executive dysfunction and inappropriate behaviour, so simultaneous functional MRI along with emotion recognition task may be rather difficult and results may be variable. Lack of cooperation from patients with by FTD for task based functional MRI including dynamic emotion recognition makes it challenging to carry out a robust study in these subjects. Thus resting state functional MRI study design may be preferred over task based MRI as it is relatively simple and convenient.

In our cohort of 75 FTD patients, 26 had by FTD (unpublished data) in which resting state functional MRI and emotion recognition test was possible only in 16 patients. Another advantage of resting state functional MRI is that patients with impaired cognition do not have to perform any emotional task during MRI in the scanner and is less time consuming [2]. Furthermore with resting state functional MRI all functional networks and their connections can be examined instead of only one network and its domain as in task based functional MRI. As FTD is a complex heterogenous neurodegenerative network disorder characterised by alterations in multiple functional networks, resting state functional MRI may be preferred as it may open a new window to brain to delineate the pathophysiology and networks involved in impaired social cognition. As there is paucity of data, Marshall's [1] studies not only strengths the evidence for social networks in FTD but also substantiates the literature in understanding role of networks in social cognition. In addition further studies are required to delineate types of networks involved.

We suggest resting state functional MRI to be considered for determining neural correlates in socio-cognitively impaired especially patients with frontotemporal dementia.

References

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