

An fMRI investigation of executive function in early psychosis.

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As part of an ongoing integrative study exploring possible relationships between structural and functional brain abnormalities in a first episode psychosis cohort, 22 healthy controls and 20 first episode patients have been scanned whilst performing the Tower of London (TOL) task. An initial analysis of the functional data for a subset of 10 patients and 10 age and gender matched controls has been performed examining neural regions recruited by the task, followed up by a second regression analysis examining task difficulty related changes in regional BOLD signal. Consistent with previous research, both groups showed evidence of right cerebellar, bilateral occipito-parietal and right dorsolateral prefrontal activation during task performance. These regions showed a greater intensity of activation in control subjects, which was not related to differences in task performance. The analysis of task difficulty related signal changes showed a similar pattern of prefrontal and parietal networks across subject groups, however, the increased activational intensity for controls versus patients was more pronounced. Further analysis is planned to examine whether reductions in activation in the patient group may be correlated with grey matter deficits.