
A SYSTEMATIC REVIEW OF MRI DIFFERENCES BETWEEN PSYCHOTIC & NON-PSYCHOTIC DEPRESSION

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Introduction:

Psychotic depression is widely accepted as a specific subtype of unipolar major depression. Magnetic resonance imaging studies have begun to investigate the neurobiological changes that differentiate this subtype of major depression from non-psychotic depression. Any differences may eventually be useful in aiding diagnosis. This review collates the currently available evidence, with the aim of directing future study.

Method:

A systematic search of the Medline, PubMed & Embase databases was used to identify all articles comparing structural or functional magnetic resonance imaging (MRI) differences between psychotic and non-psychotic depression. The results were then collated and organised according to brain region.

Results:

Decreased frontal cortex grey matter volumes and, to a lesser degree, insula cortex volumes differentiate psychotic from non-psychotic depression. fMRI studies show associations between altered activity in these two regions and cognitive impairments in patients with psychotic depression.

The volumes of putative emotional processing regions including the amygdala, hippocampus and anterior cingulate show no difference between psychotic and non-psychotic depression.

Conclusions:

Structural and functional changes in the higher associative regions of the frontal and insula cortices differentiate between psychotic and non-psychotic depression to a greater degree than changes in putative emotional processing regions. The numbers of studies available and the sample sizes involved are both small but future studies aimed at understanding the neurobiology of psychotic depression may benefit from a more detailed assessment of these two regions.