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INCONGRUENT PSYCHOSIS IN BIPOLAR I DISORDER: HERITABILITY AND IMPORTANCE FOR GENETIC ASSOCIATION STUDIES

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Introduction: Phenotype homogeneity and heritability are important conditions for identifying the genetic basis of bipolar I disorder (BPI) in association studies. Our objective was to study the heritability of mood-incongruent psychosis (MIP) in BPI in a sample of 504 families ascertained through BPI probands (294 females; 210 males) recruited from consecutive hospital admissions.
Method: There were 402 families with a psychotic proband and 275 families with a proband with MIP. All probands were directly interviewed as well as 79.55% first-degree and 22.59% second-degree relatives. The narrow and the broad sense heritability (h^2) of MIP and the effect of sex and age were estimated using S.A.G.E.v.6.01-software (2009).
Results: There was no sex difference for the psychosis prevalence in probands but MIP was two times more frequent in females than in males. In families with MIP probands the narrow-sense h^2 for MIP was 0.14 (SE=0.02, P=0.002) and the broad-sense h^2 was 0.20 (SE=0.014, P=0.0000). Significant but lower heritabilities were found in families with a psychotic proband (narrow-sense h^2=0.12; broad-sense h^2=0.13). In the total sample the narrow-sense h^2 was 0.06 (P< 0.005) and the broad-sense h^2 was 0.10 (P< 0.00001) . The female sex was more prone to incongruency (χ^2=33.32, P=0.0000).
Conclusion: The heritability of MIP was significant but not high in families ascertained through BPI probands regardless of familial psychopathology. These finding is in line with GWAS-studies showing that the polygenic score fails to differentiate psychotic BPI from non-psychotic BPI. Is therefore incongruent psychosis a useful dimension for association studies?

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