Associations between BDNF Val66Met Polymorphism, Melancholic Feature and Treatment Refractoriness in Patients with Treatment-resistant Depression

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Background
Brain-derived neurotrophic factor (BDNF) Val66Met polymorphism is related to the pathophysiology of treatment-resistant depression (TRD). But whether the Val66Met polymorphism is associated with the clinical manifestations of TRD (such as treatment refractoriness and melancholic and anxious distress features) remains unclear.

Aims & Objectives
We hypothesized that the patients with TRD carrying any Met allele would have been more likely to have melancholic and anxious distress features and higher treatment refractoriness levels compared with those with the Val/Val genotype.

Methods
Totally, 106 patients with TRD were genotyped for the *BDNF* Val66Met polymorphism. We used the 17-item Hamilton Depression Rating Scale evaluate depressive symptoms (melancholic and anxious distress features) and Maudsley Staging Method to measure treatment refractoriness. Logistic regression models were constructed to study the relationships among the Val66Met polymorphism, melancholic or anxious distress features, and treatment refractoriness.

Results
Val/Met heterozygosity was associated with significantly greater melancholic features (4.67 [1.16–14.24] odds ratio [95% confidence interval], $p<0.05$) than was Val/Val homozygosity. Melancholic feature was related to significant high treatment refractoriness (6.42 [1.70–24.25], $p<0.05$).

Discussion & Conclusion
Patients with TRD carrying the *BDNF* Val/Met genotype are more likely to present with melancholic feature, which is in turn related to high treatment refractoriness.