# Nonresponse to high-dose bupropion for depression in a patient carrying *CYP2D6**6 and *CYP2C19**17 variants: a case report

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## Abstract

We report the case of a patient with major depression treated with high-dose bupropion due to prior detected subtherapeutic blood concentrations at standard dosing. Pharmacogenetic panel testing identified the patient as a carrier of the *CYP2B6**6 allele, which has been associated with reduced bupropion metabolism and decreased concentrations of the pharmacologically active metabolite hydroxybupropion. Interestingly, we also found the patient to be homozygous for the *CYP2C19**17 allele, predicting an ultra rapid metabolizer phenotype. We propose a combined effect of the detected *CYP2C19* and *CYP2B6* genetic variants on bupropion metabolism. This case underlines the potential benefit of pre-emptive pharmacogenotyping but also the yet still fragmentary evidence making precise pharmacogenotype guided antidepressant selection and dosing challenging.

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