[3] The Department of Epilepsy, St. Petersburg Psychoneurological Research Institute named after V.M. Bekhterev, Saint-Petersburg, Russia
[4] The Department of Clinical Pharmacology, The Krasnoyarsk State medical University named after Prof. V.F. Voyno-Yasenetsky, Krasnoyarsk, Russia
[5] The Department of Management of Health Care, The Krasnoyarsk State medical University named after Prof. V.F. Voyno-Yasenetsky, Krasnoyarsk, Russia
[6] The Department of Geriatric Psychiatry, St. Petersburg Psychoneurological Research Institute named after V.M. Bekhterev, Saint-Petersburg, Russia
* Corresponding author.

Introduction The gene CYP2D6 is of great interest also due to its highly polymorphic nature, and involvement in a high number of medication metabolisms. The presence of polymorphisms in the CYP2D6 gene may modulate enzyme level and activity, thereby affecting individual responses to pharmacological treatment.
Materials and methods Allele and genotype frequency distributions of CYP2D6*10 variants and predicted phenotypes were analyzed in blood samples of 123 patients (53 patients from north-western region and 69 patients from Siberian region) using polymerase chain reaction (PCR)-restriction fragment length polymorphism, PCR-single-strand conformation polymorphism.
Results The T/T, C/T, and C/C genotype frequencies of the CYP2D6*10 allele were significantly different ($P < 0.01$) in regional groups. The frequency of the wild homozygous variant C/C of the CYP2D6*10 allele (extensive metabolizers) in the Siberian region was the highest, while the north-western region of Russia had the lowest frequency ($P < 0.001$), which are 82.6% and 64.2%, respectively. The frequency of the heterozygous variant C/T of the CYP2D6*10 allele (intermediate metabolizers) was significantly a bit high in the north-western region, while the Siberian region of Russia had the lowest frequency ($P < 0.001$), which are 35.8% and 17.4%, respectively. The homozygous variant T/T of theCYP2D6*10 allele (poor metabolizers) was not identified.
Conclusion The C100T polymorphism of the CYP2D6 gene may be associated with several drug-induced reactions in patients with depression, schizophrenia, epilepsy etc. The differences in the prevalence of intermediate metabolizers in north-western and Siberian regions of Russia may be due to genetic drift and accumulation of alleles typical of European and Asian populations.
Disclosure of interest The authors have not supplied their declaration of competing interest.

http://dx.doi.org/10.1016/j.eurpsy.2017.01.2058

EW0190

Symptoms of anxiety during pregnancy and metabolism: A pilot metabolomics study

E. Toffol[1,*], A.P. Elomaa[2], V. Glover[3], P. Kivimäki[4], M. Pasanen[5], L. Keski-Nisula[6,7], P. Huuskonen[5], S. Voutilainen[8], V. Velagapudi[9], S. Lehto[4,10]
[1] University of Helsinki, Institute of Behavioral Sciences, Helsinki, Finland
[2] University of Eastern Finland, Institute of Clinical Medicine/Neurosurgery, Kuopio, Finland
[3] Imperial College London, The Centre for Mental Health, London, United Kingdom
[4] University of Eastern Finland, Institute of Clinical Medicine/Psychiatry, Kuopio, Finland
[5] Faculty of Health Sciences, School of Pharmacy, University of Eastern Finland, Kuopio, Finland
[6] University of Eastern Finland, Institute of Clinical Medicine/Obstetrics and Gynaecology, Kuopio, Finland
[7] Department of Obstetrics and Gynaecology, Kuopio University Hospital, Kuopio, Finland
[8] University of Eastern Finland, Unit of Public Health and Clinical Nutrition, Kuopio, Finland
[9] University of Helsinki, Institute for Molecular Medicine Finland, Helsinki, Finland
[10] Department of Psychiatry, Kuopio University Hospital, Kuopio, Finland
* Corresponding author.

Introduction Anxiety symptoms are frequent during pregnancy, and they adversely affect pregnancy outcomes and offspring development. The underlying biological mechanisms are not known, but may in part be explained by alterations in certain maternal metabolic pathways. No metabolomic studies have investigated possible metabolic alterations in anxious pregnant women.
Objective This pilot study compared the metabolic profiles of anxious and non-anxious pregnant women using a mass spectrometry-based quantitative metabolomics system.
Methods Cases were 20 participants of the Kuopio birth cohort study (www.kubico.fi) with first and third trimester symptoms of anxiety (Edinburgh postnatal depression scale, anxiety subscale – EPDS-3A ≥ 4), but no depression (EPDS ≤ 12). Controls were 20 participants with low anxiety (EPDS–3A ≤ 3) and depression (total EPDS ≤ 9) in both the first and third trimester. Maternal metabolic profiles were analyzed from serum samples drawn when the mothers arrived at the delivery hospital.
Results Metabolic pathway analyses revealed significant enrichment in the glycine, serine and threonine metabolism ($P = 0.046$), as well as in the betaine ($P = 0.048$) metabolism pathways. Homocysteine was the only metabolite to significantly differentiate between cases and controls (VIP score 3.3), with lower concentrations in cases ($P = 0.003$) even when excluding non-users of folic acid supplementation ($n = 5$; $P = 0.002$), C-sections ($n = 5$; $P = 0.013$), or samples taken immediately postpartum ($n = 2$; $P = 0.004$). No other metabolites significantly differed between the groups.
Conclusions Physiological adaptation induced by pregnancy, which may have homogenized the study populations, could explain the only minor metabolic differences between the two groups. Further research in larger samples, comparing metabolic alterations in umbilical cord blood and maternal blood is warranted.
Disclosure of interest The authors have not supplied their declaration of competing interest.

http://dx.doi.org/10.1016/j.eurpsy.2017.01.2059