ABSTRACT: ***Background:*** *Postpartum depression (PPD), affecting mother's and baby's health and wellbeing, is a subtype of major depression with onset within 4 weeks after childbirth. G-protein ϐ3 subunit gene C825T polymorphism has been shown to be associated with major adult depression.*

effectors. Shiffert et al., (1998) described a single-nucleotide polymorphism (SNP) of C825T in exon 10 of the gene encoding the ϐ3 subunit of heterotrimeric G- proteins (GNϐ3 or rs5443), which is located on chromosome 12p13, about 7.5 kilobase (kb) long with11 exons and 10 introns (Siffert et al., 1998). The T allele of this SNP is related to the occurrence of a splice variant (Gϐ3s), which causes the deletion of 41 amino acids. The splice variant Gϐ3s resulted in an increased signal transduction (Siffert et al., 1998) and an increased risk of affective disorders (Avissar & Schreiber, 1992; Avissar et al., 1996; 1999). Recently, a number of studies these studies showed that the frequency of T alleles was signiýcantly higher in depressive patients than that in healthy controls. In addition, they also revealed that depressive patients with T allele had severe symptoms and a better response to antidepressant treatment (Zill et al., 2000; Joyce et al., 2003; Serretti et al., 2003; Lee et al., 2004; Wilkie et al., 2007; Cao, Hu, Zhang, & Xia, 2007). A meta-analysis by Lopez-Leon et al., (2008) found statistically signiýcant association of GNB3 825T (OR 1.38) with major depressive disorder. In another meta-analysis, Hu et al., (2014) concluded that the GNB3 C825T polymorphism was signiýcantly correlated with a higher response rate to antidepressants in major depressive disorder, and ethnicity-stratiýed analysis indicated that GNB3 C825T polymorphisms may be strongly related to the efýcacy of antidepressants in the treatment of major depressive disorder among Asians than in Caucasians. On the other hand, a meta-analysis by Niitsu et al., (2013) suggested that no major effect of any single gene variant on antidepressants efýcacy. The aim of the present study is to assess whether PPD is associated with GNϐ3 rs5443SNP in a pilot study of Chinese Han women.

METHODS

Study Subjects

This was a case control study, nested to a prospective cohort study conducted in Changsha, Hunan, China, from February to September

*Correspondence regarding this article should be directed to: swwen@ohri.ca

delivery, there was a signiýcant difference (p = 0.04), 4 were vaginal delivery and 39 PPD case were caesarean delivery in PPD cases,

et al., (2012) examined whether functional polymorphic variants, BDNF Val66Met, 5-HTTLPR, or PER2 SNP 10870, were associated with PPD symptoms and whether these genetic polymorphisms interact with season in predicting PPD symptoms. A signiýcant association between BDNF Met66 carrier status and development of PPD symptoms at 6 weeks postpartum, even when controlling for prenatal and postpartum environmental risk factors, was observed among mothers who delivered during autumn/winter (Comasco et al., 2012). In a non-psychiatric cohort of 419 Caucasians, Mehta et al assessed the association between 5-HTTLPR S-allele carrier statuses with severity of depression during pregnancy (3rd trimester) and the postpartum period (2-3 days and 6-8 months) (Mehta et al., 2012). They found that 5-HTTLPR S-allele carrier status predicted late postpartum depressive symptom severity only in the presence of negative life events (Mehta et al., 2012).

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