P-551 Spontaneous abortion and 44-bp insertiondeletion polymorphism of the SLC6A4 gene

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Introduction: Although the relationship between antidepressant use during pregnancy and its adverse effects has been widely investigated, very few studies have evaluated the impact of antidepressant use during pregnancy on the risk of spontaneous abortion (SA). Several studies suggests that gestational exposure to antidepressants, especially selective serotonine reuptake inhibitors (SSRI), can lead to spontaneous abortion.

On the basis of these reports we have analyzed the allele and genotypes fre- quencies of the 44-bp insertiondeletion polymorphism in 5-Hydroxy-tryptamine transporter gene promoter region (5-HTTLPR) in samples from SA.
Material and Methods: Parafine embebed tissues samples, from SA of un- known etiology (n = 29), and a group of 89 fertiles women, were genotyped for the 44-bp insertiondeletion polymorphism located in the promoter region of the SLC6A4 gene. Parafine from tissues was discarded by Xylol washing. DNA was extracted from tissues and blood samples by salting-out method. PCR amplified samples were analysed by Snapshot (Applied Biosystem).

Results: The genotypes and allele frequencies of the groups were: SA,SS = 0,71, SL = 0,18 and LL = 0,11; control group, SS = 0,32, SL = 0,43, LL = 0,25 (p 0,001). It has been reported that cells homozygous for the L form produced steady-state concentrations of SLC6A4 mRNA that were 1.4 to 1.7 times those in cells containing 1 or 2 copies of the S variante. In these studies, the data asso- ciated with the S/S and L/S genotypes were similar, whereas both differed from the L/L genotype, suggesting that the polymorphism has more of a dominant-recessive than a codominant-additive effect. Although S/L polymorphism of the SLC6A4 has been related to several mental diseases, and human behavior, and the short (S) form (functionally L/S or S/S) shows an increase in brain metabo- lism, very few of these studies are referred to the develoment of the brain em- bryo, and none has been related to foetal viability as the present report.

Conclusions: Although this is an ongoing study, with a low sample number by now, we observed a strong presence of SS genotype in samples of fetuses. These results permit to conclude that metabolism of serotonine has some influ- ence on human fetal viability. Supported by Grants AF2008-03314 and PTQ 09-01-00496.