ASSOCIATION OF NTPH SNPS IN A DNA COHORT OF SUICIDE COMPLETERS

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Background:
The use of illegal drugs (and misuse of prescription drugs) is harmful to oneself through judgment impairment and may contribute to risky, impulsive behaviors such as suicide. Some individuals may be at a greater risk for suicide than others according to their genetic make-up. This, coupled with illegal drug use, may play a critical role in suicide completion. Impulsivity, addictions, depression, and suicide behaviors have also been linked to tryptophan hydroxylase (TPH). Caspi et al. (2003) has recently reported a second form of TPH, neuronal TPH (nTPH), which is expressed in brain tissues while TPH is expressed predominantly in peripheral tissues. The objective of this study was to look for an association between nTPH expression and suicide completion. We hypothesized that an nTPH association in sub-phenotypes of suicide completers could be found using single nucleotide polymorphism’s (SNPs) created specifically for the nTPH gene in a cohort of DNA collected from Utah suicide completers.

Methods:
1. Development of sub-phenotypes for Utah suicide completers
Analysis of genotypes was based on homogeneous subsets of DNA identified through OME files. These subsets were created using demographic, psychiatric and toxicology information.
2. Association of neuronal TPH SNP with suicide sub-phenotypes
Genotypes for an nTPH SNP were generated in a large cohort of suicideCompleter DNA samples. Optimized conditions for the SNP have been previously reported (Zill et al. 2004). Analysis included genotype amplification, restriction digestion using MspI, visualizing and recording alleles, and confirming selected samples by sequencing.

Results and Discussion:
Collected data was analyzed using Chi-square analysis to detect associations in allele frequency when compared to published control data of the SNP frequencies (Table 1). The p values suggest that there is not a significant association between the TPH2 polymor-