Abstract Group: 1.1. Clinical Problems
Keywords: no keyword selected

Title: LSC 2013 abstract - The role of beta2 adrenergic receptor polymorphism in asthmatic patients

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Body: It is known that beta2 adrenoreceptor polymorphisms could lead to a genotype-specific response to treatment and different asthma phenotypes. The purpose of this study is to analyse the association between Arg16Gly (rs1042713) and Gln27Glu (rs1042714) polymorphism with asthma severity. Asthmatic patients (n= 49) were studied for these polymorphisms by PCR-RFLP (Polymerase chain reaction- restriction fragment length polymorphism). Control of asthma assessed by validated instrument (ACQ7 and PAQLQ). Statistical analysis was performed with PASW version 18 establishing a significance level of p< 0.05. The mean age of the 49 asthmatics was 35.59 ± 20.519 (7 -72 years); 24 females and 25 males; 41 atopics and 8 non-atopics; 32 with controlled and 17 with uncontrolled asthma. In asthmatics for Arg16Gly polymorphism, the frequencies of the allele A is 66.3% and the allele G is 33.7%; and for the Gln27Glu polymorphism, the frequencies were for allele C 30.6% and G 69.4%. Genotypes in the asthmatics for Arg16Gly polymorphism were: AA: 38.8%; AG: 55.1%; GG: 6.1% and for the Gln27Glu polymorphism were: CC: 10.2%; CG: 40.8%; GG: 49%. In asthmatics for Arg16Gly and Gln27Glu polymorphisms, there is no statistical difference (p>0.05) in genotypes: between atopics and non atopics; controlled and uncontrolled asthma; and in the different age-groups. The frequencies of genotype Arg16Gly polymorphism were statistical different between males and females, being the genotype carrying the allele G more frequent among males (p = 0.039). In this study sample we were not able to demonstrate an influence of Gln27Glu and Arg16Gly beta-2 receptor gene polymorphisms on asthma severity.