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NOS3 and TNF gene polymorphisms in Chilean subjects with coronary in-stent restenosis

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Coronary artery angioplasty with stent is a common procedure to restore myocardial blood flow. However, 20-30% of those who receive bare metal stents and 5 to 10% with drug eluted stents develop in-stent restenosis (ISR), which involves clinical and genetic factors. NOS3 and TNF genes participate in ISR pathophysiology, as nitric oxide has vasodilatory, antithrombotic, antiinflammatory and antiproliferative properties, and TNF is a key regulator of inflammation. This study is aimed to assess whether allelic distribution of NOS3 and TNF polymorphisms differ among patients who develop and those who not develop ISR. A number of 155 patients were included. Patients with stenosis > 50% in the angioplasty site were defined as cases, and those with <50% as controls. Clinical and demographic variables were registered. Four SNPs were genotyped rs2070744 and rs1799983 in NOS3, and rs361525 and rs1799964 in TNF. This was performed by real-time PCR using allele-specific TaqMan® probes. For statistical analysis a p value of <0.05 was considered significant. Genotypic distribution and allelic frequencies did not differ between cases and controls. OR values for the mutated alleles were 1.07 (95% CI: 0.66 to 1.7) for rs2070744, 0.95 (95% CI: 0.56 to 1.61) for rs1799983, 0.83 (95% CI: 0.34 to 2) for rs361525, and 1 (95% CI: 0.56 to 1.79) for rs1799964. We find association for Diabetes but not for the SNPs between cases and controls, however it is still not possible to discard its influence on ISR in Chilean population, a higher number of patients must be assessed. Fondecyt N°1141292.

Biography

Jenny Ruedlinger is a PhD student at the Center of Molecular Biology & Pharmacogenetics in the University of La Frontera. The main focus of her research project is to evaluate genetic and epigenetic determinants involved in coronary artery restenosis after angioplasty.

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