

Relation of polymorphisms VEGF (+405G>C) and TNF α (-308A>G) with the embryo implantation in Cubans patient undergoing in vitro fertilization

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Introduction: A cohort study was carried out at the National Center for Medical Genetics, from July 2017 to June 2018, in 27 patients evaluated in the consultation for the infertile couple at the Hermanos Ameijeiras Hospital. **Objective:** To establish the relationship of the individual and combined expression of the genotypes of the polymorphisms VEGF (+405 G> C) and TNF α (-308A> G), with the rates of embryo implantation in Cuban patients receiving treatment with in vitro fertilization. **Materials and Methods:** The identification of the genotypes was carried out using an ARMS PCR. The Hardy-Weinberg equilibrium was determined by applying the Chi square test of goodness of fit from a reference population, and a Principal Component Analysis (PCA) was carried out to evaluate the genotypic population structure with respect to the variables studied. **Results:** Individuals with combined genotype variant VEGF.CC / TNF α .GG were grouped homogeneously in the PCA model with respect to axis 2, where there was a higher frequency of women with a low implantation rate. In contrast, patients with a genotypic TNF α .AG variant were grouped according to the highest implantation rates. **Conclusions:** It was concluded that there is a relationship between genotype variants VEGF.CC and TNF α .GG with a low implantation rate, when they are expressed individually or in combination in patients treated with the in vitro fertilization technique, while the individual genotypic variant TNF α . AG is associated with a higher implantation rate.

Keywords: Assisted reproduction, in vitro fertilization, VEGF, TNF α