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Molecular analysis of idiopathic cryptorchidism in the Mexican population

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Cryptorchidism (CO) may occur as an isolated manifestation (idiopathic) or associated with a congenital malformation syndrome. CO is an important factor for male infertility and testicular malignancy on adulthood, itself might be considered a complex disease in which multiple genes are involved in the testicular descent. In this study we analyzed some single nucleotide polymorphisms (SNPs) in the *INSL3* and *RXFP2* genes, which could contribute as risk factors or susceptibility for the idiopathic CO in Mexican patients. 85 patients were included with idiopathic CO and 100 children on the control group, where 12 SNPs were analyzed. 100% from patients but also from the control group were out normal homozygous for the p.R102C and p.R105H from the gene *INSL3* variables, while the p.R102H variable was detected in only one patient in heterozygous state. Two alterations were detected by sequencing: p.R105R and the p.T86M. The frequency of the analyzed variables in the *RXFP2* gene is similar to other populations, comparing the frequency of these variables with the patients and the control group, the c.51869A-G variable showed differences, since the GG genotype or at risk, is more common on idiopathic CO patients, while realizing the genotype-phenotype correlation, it shows that the c. 30704C-T variable, the TT genotype or at risk is more common on bilateral CO patients. Knowing the type and distribution from the allelic variables in our population, will allow the improvement of risk prevention methods and susceptibility for this malformation and in the future the infertility and testicular cancer preventive care.