EuroSciCon

EuroScicon Joint event on

Genetics, Cell and Gene Therapy

August 20-21, 2018
Amsterdam, Netherlands

Biochem Mol biol 2018 Volume: 4
DOI: 10.21767/2471-8084-C3-015

FIRST REPORT OF KLEIN-WAARDENBURG SYNDROME IN IRAN: NOVEL SPLICE SITE VARIANT IN *PAX3* GENE

R Massoumi[1] and M Saberi[2]

[1]Islamic Azad University, Science and Research Branch, Iran
[2]Tehran University of Medical Sciences, Iran

Background: Waardenburg Syndrome (WS) as a congenital auditory-pigmentary syndrome is a clinically and genetically heterogeneous disorder. Based upon clinical manifestations, it can be classified into four types. Loss of function mutations in *PAX3* gene causes WS1 and WS3 (Klein-Waardenburg syndrome). Here we report a novel splice site variant in a pedigree with multiple affected members. Based on diagnostic criteria, three of them are associated with WS3. The remained patients classified as type 1.

Materials & Methods: PCR amplification and Sanger sequencing were performed for all exons and all exon-intron boundaries of *PAX3* gene of the proband. Then available symptomatic and asymptomatic members were screened for the detected variant. Interpretation and classification of the variant was done based on ACMG guideline for variant interpretation.

Results: We identified a novel heterozygous splice site variant in donor site of intron 4 of *PAX3* gene in our proband. Moreover, this variant was co-segregated with the disease in other available five affected members. Also, the detected variant was not detected in any of the investigated asymptomatic members.

Conclusion: This study shows significant intra-familial clinical heterogeneity and absence of phenotype-genotype correlation in a pedigree with Waardenburg Syndrome. However, severity of phenotypes and additional symptoms in the patients can be related to alternative splicing and different levels of *PAX3* expression. Detailed evaluation of more cases can shed light on this and case-reports are valuable traffic sign in the road. This article is the first report of Waardenburg syndrome type 3 in Iran.

rojina.massoumi@gmail.com