

Haplotype Analysis of Seven Non-syndromic Autosomal Recessive Hearing Loss Loci in Iranian Families

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Abstract

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Objective: Hearing impairment is the most frequent sensorineural defect in 2 forms, syndromic and non-syndromic. The aim of this study is haplotype analysis of seven loci of non-syndromic autosomal recessive hearing loss in Iranian families.

Materials & Methods: In this descriptive study, forty one Iranian families with 2 or more affected individuals segregating as an autosomal recessive non-syndromic hearing loss were selected simply and conveniently. The patients have been tested negative for the following loci, DFNB1, DFNB2, DFNB3, DFNB4, DFNB6, DFNB7/11, DFNB8/10, DFNB9, DFNB12, DFNB16, DFNB18, DFNB21, DFNB23, DFNB29 and DFNB4 previously. The subjects have been investigated additional 7 loci (DFNB22, DFNB28, DFNB30, DFNB31, DFNB36, DFNB37 and DFNB67), to determine the prevalence of these genes involve in these loci. Homozygosity mapping was applied using number of STR (Short Tandem Repeat) markers.

Results: Three families linked to the following loci DFNB28, DFNB30 and DFNB 31.

Conclusion: In this research, the cause of additional 7% of non-syndromic hearing loss was determined in Iranian population.

Keywords: Non-syndromic hearing loss / Recessive autosomal heredity / Haplotype analysis / Iran