Richieri-Costa-Pereira syndrome: Expanding its phenotypic and genotypic spectrum

Abstract

Richieri-Costa-Pereira syndrome is a rare autosomal recessive acrofacial dysostosis that has been mainly described in Brazilian individuals. The cardinal features include Robin sequence, cleft mandible, laryngeal anomalies and limb defects. A biallelic expansion of a complex repeated motif in the 5' untranslated region of EIF4A3 has been shown to cause this syndrome, commonly with 15 or 16 repeats. The only patient with mild clinical findings harbored a 14-repeat expansion in 1 allele and a point mutation in the other allele. This proband is described here in more details, as well as is his affected sister, and 5 new individuals with Richieri-Costa-Pereira syndrome, including a patient from England, of African ancestry. This study has expanded the phenotype in this syndrome by the observation of microcephaly, better characterization of skeletal abnormalities, less severe phenotype with only mild facial dysmorphisms and limb anomalies, as well as the absence of cleft mandible, which is a hallmark of the syndrome. Although the most frequent mutation in this study was the recurrent 16-repeat expansion in EIF4A3, there was an overrepresentation of the 14-repeat expansion, with mild phenotypic expression, thus suggesting that the number of these motifs could play a role in phenotypic delineation. (AU)