Autosomal Dominant Larsen Syndrome

Alternative Names
LRS1

WHO International Classification of Diseases
Congenital malformations, deformations and chromosomal abnormalities

OMIM Number
150250

Mode of Inheritance
Autosomal dominant

Gene Map Locus

Description
Larsen syndrome is characterized by joint hypermobility, multiple joint dislocations, especially of the knees, and talipes equinovarus. The midface is hypoplastic with a depressed nasal bridge. Cleft palate may be present. Radiographs reveal under-mineralisation and over-tubulation of the long bones, a bifid calcaneus and advanced bone age in the carpal, or extra carpal bones. Scoliosis, coronal clefts of the vertebrae and subluxation of the vertebra may be found. Scientists emphasized the importance of differentiating Larsen syndrome from other conditions in which arthrogryposis is the presumed diagnosis. The latter is, however, a symptom complex and not a diagnosis.

Molecular Genetics
The filamins are cytoplasmic proteins that regulate the structure and activity of the cytoskeleton by cross-linking actin into three-dimensional networks, linking the cell membrane to the cytoskeleton and serving as scaffolds on which intracellular signaling and protein trafficking pathways are organized. Missense mutations were identified in the gene encoding filamin B (FLNB gene) in individuals with autosomal dominant Larsen syndrome.

Epidemiology in the Arab World

Tunisia
Al-Kaissi et al. (2003) reported eight distantly related family members of a Tunisian family, who over three generations had variable clinical manifestations, ranging from full clinical diagnostic criteria for Larsen syndrome in four subjects, to less apparent skeletal, oral, and mental manifestations in the rest of the family members. Al-Kaissi et al. (2003) noted the presence of the syndrome in three generations of the same family, which is suggestive of inheritance consistent with single-gene autosomal dominance. They also noted that the multiple neonatal deaths in the family might represent the extreme of expression of the syndrome.

References

Contributors
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