Smith - Lemli- Opitz

Genetics

-Gene: DHCR7 (7-dehydrocholesterol reductase; 11q13.4)

-AR

Clinical findings/Dysmorphic features

-Facial features: microcephaly, narrow forehead, epicanthal folds, ptosis, short mandible with preservation of jaw width, cleft palate, short nose, anteverted nares, low-set ears

-2-3 syndactyly of the toes (minimal to Y-shaped); postaxial polydactyly

-Growth delay; ID; hypospadias in males

Etiology

-Prevalence approximately 1:20,000 to 1:40,000 live births

Pathogenesis

-Deficiency of 7-DHC reductase --> failure to convert 7-DHC to cholesterol

Genetic testing/diagnosis

-Diagnostic test: elevated serum conc. of 7-DHC; most affected ind. with hypocholesterolemia

-Seq. of DHCR7 (96% of known variants): seq. of ex 4-9; targeted analysis of variants; In/Del

-84% of pathogenic variants are missense variants distributed among all coding exons

-Woman pregnant with SLOS fetus have low serum estriol levels