Pendred syndrome

Genetics

-SLC26A4 (PDS) most common; FOX11, KCNJ10 in rare cases

-AR

Clinical findings/Dysmorphic features

-SNHL that is usually congenital and often severe to profound

-Vestibular dysfunction, and temporal bone abnormalities (bilateral enlarged vestibular aqueduct with or without cochlear hypoplasia; Mondini malformation)

-Goiter in 75% though only 10% have abnormal thyroid function

Etiology

-not known

Pathogenesis

-SLC26A4 is a chloride/iodide exchanger in the inner ear and thyroid --> mutation leads to inner ear malformation and abnormal iodide processing in the thyroid

Genetic testing/diagnosis

-Biallelic pathogenic variants in SLC26A4 or double heterozygosity for one pathogenic variant in SLC26A4 and one pathogenic variant in either FOXI1 or KCNJ10

-p.Leu236Pro (26%), p.Thr416Pro (15%), c.1001+1G>A (14%) --> 50% of variants in SLC26A4

Others

-Pathogenic variants in SLC26A4 are the third most frequent cause of hearing loss