Condition: Chromosome 22q11.2 deletion syndrome (Velo-cardio-facial syndrome, DiGeorge syndrome)

Inheritance:

Chromosomal; microdeletion may be transmitted as dominant trait.

Genetic etiology:

Microdeletion of chromosome 22q11.2. Usually not visible cytogenetically, but detectable by FISH or comparative genomic hybridization.

Frequency:

1/4,000 – 1/6,000.

Clinical features:

Cleft palate or other palatal abnormalities such as high narrow palate, submucous cleft palate, or bifid uvula; conotruncal cardiac malformations, such as Tetralogy of Fallot or coarctation of the aorta; facial anomalies, including narrow palpebral fissures and a prominent nose may occur. Some infants have absence of parathyroids and thymus (described as DiGeorge syndrome), leading to hypocalcemia and susceptibility to infection, respectively. Learning disabilities are common, and psychiatric disorders may occur in later childhood or adolescence.

Management:

Surgical management of congenital anomalies; supportive care for hypocalcemia or infection; support for cognitive development.

Genetic counseling:

Affected individuals face 50% risk of transmission of the deletion; couples with sporadically affected child face low recurrence risk, but germline mosaicism is possible. Prenatal diagnosis is available.

Human Genetics and Genomics, Fourth Edition. Bruce R. Korf and Mira B. Irons.