Condition: Alzheimer disease

Inheritance:

Multifactorial; rare autosomal dominant forms exist.

Genetic etiology:

Autosomal dominant disorders due to mutations in *PSEN1, APP,* or *PSEN2* genes, encoding presenilin-1, amyloid beta A4 protein, and presenilin-2, respectively. Otherwise etiology is multifactorial, with e4 allele at *APOE* locus representing a risk factor.

Frequency:

Upwards of 5% of individuals over 70 years of age have signs of Alzheimer disease. Less than 2% of cases are due to single gene mutations.

Clinical features:

Alzheimer disease presents with memory loss and confusion, and may include language problems, poor judgment, agitation, and hallucinations. Brain atrophy is seen by MRI. There are no physical signs of the disease.

Management:

Supportive care.

Genetic counseling:

First-degree relatives face 20-25% risk of developing Alzheimer disease; rare single gene causes display autosomal dominant inheritance.

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