Huntington Disease
Pathogenesis and Treatment

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KEYWORDS

• Huntington • Chorea • Huntingtin • Polyglutamine • Striatum • Pathogenesis
• Neurodegeneration • Treatment

KEY POINTS

- Huntington disease (HD) is an autosomal dominant inherited neurodegenerative disease characterized by progressive motor, behavioral, and cognitive decline, ultimately culminating in death.
- Mutant huntingtin protein alters neuronal function via multiple intracellular mechanisms. Striatal neurons in particular are selectively vulnerable to these toxic effects, and degenerate in a sequence, which helps explain the evolution of chorea and other motor features.
- Although there is currently no direct treatment of HD, chorea and psychiatric symptoms often respond to pharmacotherapy. A better understanding of HD pathogenesis, as well as more sophisticated clinical trials using newer biomarkers, may lead to meaningful therapeutic advances.

OVERVIEW

Huntington disease (HD) is an autosomal dominant inherited neurodegenerative disease characterized by progressive motor, behavioral, and cognitive decline, resulting in death within 15 to 20 years after diagnosis.[1] In the United States and Canada, approximately 30,000 people carry the diagnosis and an estimated 150,000 more are at risk. HD is most prevalent in people of European descent; approximately 10 to 15 per 100,000.[2,3] Men and women are equally at risk. Median age of diagnosis approximates 40 years, with a wide range in age of onset. Onset before age 20 years or after age 65 years is rare. The combination of typical midlife onset and dominant inheritance affects entire families across the social scale, and devastates the lives of patients, at-risk individuals, and genetically normal family members alike. Management options at this time are limited, and there is still no therapy to slow down the inexorable loss of function.

The authors have nothing to disclose.

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