

Exploración Integral de la Enfermedad de Huntington en Juan de Acosta, Colombia: Perspectivas Históricas, Neuropsicológicas, Genéticas y Neuroanatómicas.

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Cognitivas Aplicadas

Resumen

La presente tesis ofrece un análisis exhaustivo de la Enfermedad de Huntington (EH) en Juan de Acosta, Colombia, abordando cuatro componentes clave: neuropsicológico, genético, neuroanatómico e histórico. El componente histórico abordó el "Efecto Fundador" de la EH en Juan de Acosta, explorando la ascendencia vasca, la migración durante la colonización española y la conexión entre datos genealógicos y la prevalencia de EH. Se resaltó la relevancia de la subestructura interna en la población vasca y la existencia de mutaciones fundacionales. Desde la perspectiva neuropsicológica, se identificaron marcadores tempranos en la EH

mediante pruebas específicas, como la copia de la figura del rey y la prueba Stroop. Individuos en fase premotora mostraron alteraciones significativas en habilidades visoconstructivas e inhibición cognitiva, sugiriendo su potencial como marcadores tempranos de disfunción neurocognitiva. En el componente genético, se realizó el análisis genómico de 291 individuos reveló repeticiones CAG en el gen huntingtina (HTT), destacando los alelos 17/7 y 17/10 como los más comunes y evidenciando un aumento de mosaicismo con la edad. La investigación neuroanatómica se centró en alteraciones volumétricas cerebrales en individuos premanifiestos, identificando cambios significativos, como la disminución del volumen del parénquima cerebral en la penetrancia completa y hallazgos sorprendentes en el grupo intermedio. La dilatación ventricular emergió como un indicador potencial de la progresión global de la enfermedad. En conjunto, esta tesis proporciona una visión completa de la EH en Juan de Acosta, integrando aspectos neuropsicológicos, genéticos, neuroanatómicos e históricos. Estos hallazgos no solo enriquecen la comprensión de la enfermedad, sino que también tienen implicaciones cruciales para la detección temprana, intervenciones preventivas y gestión clínica en esta población.

Palabras clave

Premotores EH, habilidades visoconstructivas, inhibición, marcadores tempranos, Enfermedad de Huntington, HTT, repeticiones CAG, mosaicismo, deslizamiento, EH premanifiesta, biomarcadores, cambios volumétricos cerebrales, dilatación

ventricular, Efecto Fundador, ascendencia vasca, migración colonial, datos genealógicos, prevalencia diferencial

Abstract

This thesis presents a comprehensive analysis of Huntington's Disease (HD) in Juan de Acosta, Colombia, addressing four key components: neuropsychological, genetic, neuroanatomical, and historical. The historical component delved into the "Founder Effect" of HD in Juan de Acosta, exploring Basque ancestry, migration during Spanish colonization, and the connection between genealogical data and HD prevalence. The relevance of internal substructure in the Basque population and the existence of founder mutations were emphasized. From a neuropsychological perspective, early markers in HD were identified through specific tests such as the King's figure copy and the Stroop test. Individuals in the premanifest phase showed significant alterations in visuospatial skills and cognitive inhibition, suggesting their potential as early markers of neurocognitive dysfunction. In the genetic component, genomic analysis of 291 individuals revealed CAG repeats in the huntingtin gene (HTT), highlighting the 17/7 and 17/10 alleles as the most common and showing an increase in mosaicism with age. Neuroanatomical research focused on brain volumetric alterations in premanifest individuals, identifying significant changes such as decreased cerebral parenchymal volume in complete penetrance and surprising findings in the intermediate group. Ventricular dilation emerged as a potential indicator of overall disease progression. Overall, this thesis provides a

comprehensive view of HD in Juan de Acosta, integrating neuropsychological, genetic, neuroanatomical, and historical aspects. These findings not only enrich the understanding of the disease but also have crucial implications for early detection, preventive interventions, and clinical management in this population.

Keywords

Premanifest HD, visuospatial skills, early markers, Huntington's disease, CAG repeats, mosaicism, slippage, premanifest HD, biomarkers, brain volumetric changes, ventricular dilation, Founder Effect, Basque ancestry, colonial migration, genealogical data, differential prevalence.

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