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Sporadic Fatal Insomnia: A Case Report

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Keywords

Fatal Insomina, Creutzfeldt-Jacob disease

Abstract

The most common prion disease is Creutzfeldt-Jacob disease (CJD), usually sporadic sCJD), but in up to 15% familial due to mutations in the prion gene. CJD presents with myoclonis, ataxia, and rapidly progressive dementia with an average age of onset of 67 years.

Fatal Familial Insomnia (FFI) is a related uniformly fatal prion disease, with mean onset of dysautonomia and insomnia at 56 years and mean duration of 13 months. The same mutations that produce familial CJD cause FFI, with the different phenotypes attributable to different polymorphisms of codon 129 of the prion gene: V/V or M/V in the case of CJD versus M/M in FFI. Occasionally, Fatal Insomnia (FI) can present as a sporadic prion disease (sFI) in patients lacking mutations in the prion protein, appearing as a phenocopy of FFI. To date, 32 cases of sFI have been reported in the literature. A 33rd case was recently encountered at autopsy in a patient who was treated at OHSU.

Clinical History

A 56-year-old female initially complained of gait abnormality and difficulty in speaking. Despite extensive evaluation at Mayo clinic with empiric trials of immunotherapy and steroids, her symptoms worsened significantly. The patient manifested a sleep disorder characterized by insomnia with moaning and thrashing of many hours duration. MRI of the brain did not show typical basal ganglia abnormalities diagnostic of CJD and her clinical diagnosis was multisystem atrophy versus prion disease.

Tissue was sent to the National Prion Disease Pathology Surveillance Center in Cleveland, Ohio, where the results of western immunoblotting for abnormal protease-resistant prion protein showed low-molecular weight forms of insoluble prion protein that have been reported to predominate in FI. Sequencing of the prion gene did not reveal mutations but demonstrated the M/M polymorphism, supporting the diagnosis of sFI.