

薬理学講座 助教

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神経変性疾患/ 筋萎縮性側索硬化症/ 神経免疫

Neurodegenerative Diseases/ ALS/Neuroimmunology

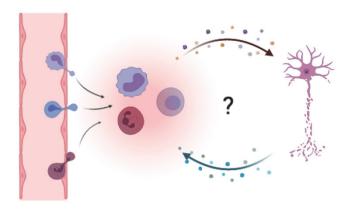
研究概要

【神経免疫学の観点から神経変性疾患の病態解析に 取り組む】

筋萎縮性側索硬化症(ALS)やアルツハイマー病といった神経変性疾患は、有効な治療法が確立されていないアンメット・メディカル・ニーズの高い疾患であり、発症機構の理解と治療法の開発が急務となっております。神経変性のメカニズムとして異常タンパクの凝集沈着など様々な要因が考えられてきましたが、未だに根本的な発症・進行機構は明らかではありません。

近年、神経学と免疫学を融合させた神経免疫学の発展が著しく、神経変性疾患でも免疫系の関与が報告されています。神経変性疾患の病巣は中枢側ですが、末梢側での獲得免疫や自然免疫の破綻も変性の要因である可能性が考えられています。また、いわゆる自己免疫疾患のように「ブレーキの外れた」状態であるために、過剰な免疫反応により神経変性が生じている可能性も考えられています。

現在、私たちはALSモデルマウスの全身の免疫状態を解析し、各種免疫細胞・関連因子が病態形成に与える影響を検討しています。賦活化・抑制の両面から免疫が神経変性に与える影響を検討することで、新たな観点からの病態メカニズム発見や、創薬ターゲットとなりうる因子の同定を目指しています。



Neurodegenerative diseases, such as amyotrophic lateral sclerosis (ALS) and Alzheimer's disease, are devastating diseases with high unmet medical needs for which no effective treatments have been established. Various factors have been proposed as the mechanism of neurodegeneration, but the underlying mechanism remains to be elucidated.

In recent years, the development of neuroimmunology, which combines neurology and immunology, has been remarkable, and the involvement of the immune system in neurodegenerative diseases has been reported. The disruption of peripheral immunity is considered to be a factor in neurodegeneration. It is also possible that neurodegeneration is caused by an excessive immune response with "no brakes" condition, as in autoimmune diseases.

We are currently analyzing the systemic immune status of ALS mouse model and investigating the effects of immune cells and related factors on the pathogenesis of ALS. By studying the effects of immunity on neurodegeneration from both the activation and suppression status, we aim to elucidate the pathological mechanisms from a new perspective and to identify new drug targets for ALS.

主な論文

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