Multiple Sclerosis Features and Mechanisms

MS is most common in young, white women. It usually presents in a patient's 20's and 30's, and most commonly affects northern Europeans. The exact mechanism of multiple sclerosis is poorly understood, but the development is known to have genetic and environmental components. This disease is associated with HLA-DRB1 and is an autoimmune demyelinating disorder affecting the white matter of the brain and spinal cord. This autoimmune disease is mediated by T-Cell inflammation.



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Features

More Common in Women
Two women
MS is more common in women than men, at about 2-3:1 ratio.

Presents in 20's and 30's
(20) Twenty dollar bill and (30) Dirty
Individuals with MS most often present in their 20s and 30s.

Northern Europeans
North-compass Europeans
MS is most common in individuals of Northern European descent.

Mechanism

Unknown mechanism, genetic factor
Question-mark Mechanism with DNA-double-helix
The mechanism for autoimmune demyelination is not completely understood; however, there is a genetic factor in addition to environmental.

HLA-DRB1
HuLA Dr. with (B) Bee and (1) Wand
There is an association with the HLA-DRB1 haplotype and MS.

Autoimmune Demyelination of CNS
Auto-in-moon Demyelinating CNS-brain
It is believed that T-Cells react against self myelin antigens leading to recruitment of macrophages and leukocytes. This causes demyelination of the CNS.

White Matter of Brain and Spinal Cord
White Brain and Spinal Cord
White matter of the brain and spinal cord are particularly impacted, as white matter is composed chiefly of long-range myelinated axon tracts.

T Cell Mediated Inflammation
Tennis-ball spreading Flames
It is believed that T-Cells attack self myelin, recruiting macrophages and leukocytes. Thus, it is hypothesized that T-Cells are likely responsible for autoimmune inflammation reactions in MS.

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