Managing MS and risk of infections

Multiple Sclerosis (MS) is generally treated with medications that affect the immune system called disease-modifying therapies (DMTs). DMTs help reduce immune-mediated inflammation in the central nervous system caused by MS.

A closer look at DMTs and their varying risks of infection

DMTs work on different parts of the immune system to help treat MS[1]

DMTs affect the risk for infection differently, and some are linked to higher risks of infections[1]

An overview of how DMTs work

Some DMTs work by **eliminating certain types of white blood cells.**[2-5]

- DMTs that eliminate certain white blood cells may increase the overall risk for infections[2-5]

Other DMTs work by **making it harder for some lymphocytes to move into the blood stream, or into the brain or by changing the inflammatory response.**[6-8,10,12-14]

- DMTs that reduce the movement of lymphocytes into the blood stream may increase the risk of infections[12-14]
- DMTs that change the body's inflammatory responses tend to have low risk or do not increase the risk of infections[6-8]

Interferons

Interferons have been shown to modify the immune system to decrease the number of flareups and slow the occurrence of physical disability[6,7]

It is not fully known how they work in MS[6,7]

Glatiramer acetate

Glatiramer acetate is a mixture of small proteins[11]

It is thought to work by modifying the immune processes that are believed to cause MS[11]

Dimethyl fumarate

Dimethyl fumarate works by changing how the body's immune system works, to help keep it from further damaging the brain and spinal cord[8]

Teriflunomide

Teriflunomide can alter the way the body's immune system works[9]

Fingolimod

Fingolimod changes how the body's immune system works by decreasing the ability of lymphocytes to move freely within the body. This lowers the number of lymphocytes in the blood and prevents them from reaching the brain and spinal cord[13]

Ozanimod

Ozanimod binds to selective receptors on the white blood cells. This keeps the white blood cells in the body's lymph nodes and lowers the number of white blood cells circulating in the body[14]

Siponimod

Siponimod binds to selective receptors on the white blood cells and keeps them in the body's lymph nodes. This lowers the number of the white blood cells circulating in the body[15]

Natalizumab

Natalizumab prevents active immune cells from reaching the brain[10]

It also decreases the inflammation in the brain[10]

Ocrelizumab

Ocrelizumab binds to a unique site (called an antigen) on certain cells. It binds to an antigen called CD20, so that the immune system may not attack your nervous system as much[3]

Alemtuzumab

Alemtuzumab binds to a unique site (called an antigen) on certain cells. It binds to an antigen called CD52, so that the immune system may not attack your nervous system as much[4]

Ofatumumab

Ofatumumab binds to a unique site (called an antigen) on certain cells. It binds to an antigen called CD20, so that the immune system may not attack your nervous system as much[5]

Cladribine

Cladribine is cytotoxic, which means it causes cell death[6]

Cladribine acts in specific ways on cells in your immune system called B and T lymphocytes[6]

How does your DMT work?

Print the DMT overview chart, and talk to your doctor about your DMT at your next appointment.

For complete information about MS, available treatment options, or if you suspect that you're experiencing any related symptoms, talk to your healthcare professional.

References:

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Biogen-100010