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Short Communication

Causes and Diagnosis of Multiple Sclerosis in Children

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DESCRIPTION

Multiple Sclerosis (MS) is a condition that is caused by the immune system. A material called myelin that surrounds and shields the nerves in the brain and spinal cord is mistakenly attacked by the body's immune system. MS in children is referred to as pediatric MS. Approximately 3 to 10% of persons with MS acquire their diagnosis before the age of 16 and less than 1% receive the diagnosis before they're 10 years old.

The symptoms of MS in children are same as in adults includes numbness, fatigue, weakness, tingling, balance problem, slurred speech, sensitivity to heat, dizziness, difficulty in walking, tremors etc. Some of the children may face the seizures in rare situations.

Children with MS frequently experience mood issues. Depression is most common and other common ailments include: anxiety, fatigue. Activities that are frequently impacted include: memory, concentration, attention span, and coordination, executing tasks, planning, organizing, and decision-making while digesting incoming information etc.

Some of the adverse effects most frequently reported include: Headache, higher liver enzyme concentrations, nausea and vomiting, Flu, sinusitis, and cough, back ache, the feet and hands are hurting. There are other negative effects besides these. There are some that are both significantly more improbable and serious. The negative consequences of corticosteroids are pretty well understood. They consist of mood swings, sleeplessness, hypertension, and excessive blood sugar (hyperglycemia) [1,2].

Causes

There is no known cause of MS in kids (or adults). It cannot be prevented and is not communicable. However, a number of factors appear to raise the likelihood of getting it:

Family history: Although a child is not genetically predisposed to MS, they are significantly more likely to do so if they have particular gene combinations or a parent or sibling who has the disease.

Epstein-Barr virus exposure: The MS in youngsters who are more likely to get it may be activated or set off by this virus. Despite being exposed to the virus frequently, many kids do not go on to acquire MS.

Low amounts of vitamin D: People, who live in northern climates, where there is less sunshine than near the equator, are more likely to get MS. People who live in northern areas typically have lower vitamin D levels since our bodies need sunlight to generate vitamin D. Low vitamin D levels can raise the chance of relapsing.

Exposure to tobacco: Firsthand and secondhand exposure to cigarette smoke has been demonstrated to increase the chance of acquiring multiple sclerosis (MS) [3,4].

Diagnosis

Some tests are performed by physician to diagnose the multiple sclerosis may include

Exam and history: A doctor will conduct a thorough neurologic examination and ask specific questions regarding the kind and frequency of the child's symptoms.

MRI: An MRI can identify any damaged areas of the spinal cord and brain. Additionally, it can reveal the presence of optic neuritis, an inflammation of the optic nerve that connects the eye and the brain.

Spinal puncture: It is also known as spinal tap. A sample of the fluid surrounding the brain and spinal cord is taken during this operation, and examined for signs of MS.

Stimulated potentials: This examination demonstrates how quickly signals travel through the nerves. If a history of optic neuritis exists in a child with MS, these signals will be delayed.

Optical coherence tomography: This examination can look for thinning by taking a photograph of the optic nerve. This can detect an optic neuritis history that may not have manifested any symptoms [5].

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Treatment

The treatment of MS in children and teens may include: Corticosteroids can lower relapse duration and intensity by decreasing inflammation. If steroids do not work or are not tolerated, plasma exchange, which eliminates the antibodies attacking the myelin, can be used to treat a recurrence.

The Food and Drug Administration (FDA) has approved the prescription drug fingolimod (Gilenya) for the treatment of relapse MS in children 10 years of age and older. It is a medication-based disease-modifying therapy (DMT). The safety and efficacy of a number of additional DMTs that have been given adult approval are currently being investigated in clinical trials for usage in MS-affected kids. For kids with MS, speech, occupational, and physical therapy might be beneficial.

CONCLUSION

The treatment of MS in children and teens may include: Corticosteroids can lower relapse duration and intensity by decreasing inflammation. If steroids do not work or are not tolerated, plasma exchange, which eliminates the antibodies attacking the myelin, can be used to treat a recurrence.

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