National Ataxia Foundation

Hypertrophic Olivary Degeneration (HOD)

What is HOD?

Hypertrophic olivary degeneration (HOD) is caused by the inferior olivary nucleus growing larger than normal. This causes HOD symptoms to start. There are two olives, located on each side of the brain stem. The olives assist the cerebellum to learn new movement and coordinate the body. HOD can affect one olive (unilateral) or both olives (bilateral).

There are multiple potential reasons that the inferior olivary nucleus grows larger and causes HOD. This includes stroke, brainstem malformations or damage, side effects of other neurodegenerative disorders, demyelinating diseases such as Multiple Sclerosis, or for unknown reasons. There can be a delay between the initial damage to the olive and the HOD symptoms starting.

There is still a lot we do not know about why HOD happens. Research is being done to better understand the root causes of HOD.

What are the symptoms of HOD?

Over 70% of people with HOD have ataxia. Ataxia means incoordination. These symptoms can include problems with balance, coordination, and dexterity. Ataxia can also include problems coordinating muscles that control speech and swallowing.

Many people with HOD have vision symptoms, such as double vision or nystagmus. Other symptoms include numbness, feeling dizzy, tinnitus, muscle spasticity, involuntary muscle twitching, and tremors.

What is the prognosis for HOD?

It can be hard to predict how HOD symptoms will progress over time. This is due to the limited information available on HOD currently. Research is being done to better understand when symptoms start and how they progress.

The stability of symptoms depends on the underlying causes of HOD. For HOD due to injury, such as a brainstem bleed, symptoms usually become stable and do not get worse after some time. For HOD due to illness, such as MSA-C, symptoms will slowly get worse over time.

Treatments such as physiotherapy, occupational therapy, and speech-language therapy can significantly improve the lives of people with HOD. There are no medications approved to treat HOD at this time. However, medications can be used to treat specific symptoms – such as tremor or ataxia.

How is HOD diagnosed?

A neurologic examination can determine whether a person has symptoms typical of HOD. This suspected diagnosis is then confirmed through brain imaging, such as MRI. A neurologist is often the most helpful specialist in recognizing symptoms and diagnosing HOD.

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What kind of support is available after the diagnosis?

NAF is committed to providing information and education about Ataxia, support groups for those affected by Ataxia, and promoting and funding research to find the cause for the various forms of Ataxia, better treatments, and, hopefully someday, a cure. NAF has been at the forefront funding promising worldwide research to find answers.

NAF provides accurate information for you, your family, and your physician about Ataxia. Please visit the NAF website at www.ataxia.org for additional information, including a listing of Ataxia support groups, physicians who treat Ataxia, social networks, and more. For questions contact the NAF directly at (763) 553-0020 or naf@ataxia.org.

GAA repeat numbers can grow or shrink between generations. This can make it seem like ataxia 'skips' a generation, if the GAA repeat number shrinks below the number needed to cause SCA27B. If in the next generation, the GAA repeat number grows to over 300 again, then people will develop symptoms.