

What are the causes of acquired ataxia?

INFORMATION FROM PATIENTS AND FAMILIES
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- The **causes** of ataxia are mainly classified into three major categories: acquired, hereditary, and degenerative. The majority of the acquired causes are treatable. The following are the acquired causes:
- **Alcohol:** Long-term and excessive use of alcohol can cause ataxia. Alcohol damages the cerebellum, causing it to shrink in size.
- **Medicines:** Medications that are used to treat seizures (phenytoin, valproate, etc.) and chemotherapeutic agents (drugs used to treat cancer) such as cisplatin, cytarabine, oxaliplatin, 5-fluorouracil, and capecitabine can cause ataxia. Sedatives (benzodiazepines) and some psychiatric medicines like lithium can also be responsible.
- **Toxins:** Exposure to some toxins, such as heavy metals (lead and mercury), solvents (glue, paint thinners, etc.), can cause ataxia. Most patients are exposed to these toxins as an occupational hazard.
- **Deficiency or excess of certain vitamins:** Deficiency of certain vitamins (Vitamin E, Vitamin B12, Vitamin B1, Vitamin B6) can cause ataxia. This could be due to inadequate intake or poor absorption in the gut. An excess of vitamin B6 (pyridoxine) can cause ataxia. Correcting the deficiency or restricting the excess vitamin can improve ataxia.
- **Head injury:** Damage to the brain as a result of injury to the head can cause ataxia.
- **Ataxic Cerebral palsy:** This is seen in children who have developed a birth injury at the time of their delivery or shortly after birth. This manifests as a delay in the development of motor and speech milestones.
- **Disorders of endocrine glands:** Diseases of the thyroid gland and parathyroid gland can cause ataxia. It is usually due to the reduced secretion of thyroid hormone (hypothyroidism) and parathyroid hormone (hypoparathyroidism).
- **Stroke:** A sudden interruption of blood supply (infarct) or bleeding into the cerebellum gives rise to ataxia that has a sudden onset of symptoms. High blood pressure, diabetes mellitus, and smoking are the usual risk factors.
- **Demyelinating diseases:** Multiple sclerosis is a prototype of this category. In this disease, there is a loss of myelin sheath, which is a protective covering surrounding nerve cells in the brain, spinal cord, and cerebellum. Diseases caused by AQP4 or MOG antibodies also fall in this category.
- **Immune-mediated diseases:** In autoimmune disorders, white blood cells attack healthy cells, leading to multiple symptoms, including ataxia. Autoimmune diseases, such as systemic lupus erythematosus and sarcoidosis, can cause ataxia. Sometimes it can be triggered by eating gluten-containing food, known as celiac disease. Some autoantibodies like anti-CASPR2, can also cause ataxia.
- **Infections:** Some infections, such as bacterial and viral illnesses (chickenpox, HIV, etc.) can cause ataxia. These damage the cerebellum and other parts of the brain, leading to ataxia and other symptoms.
- **Paraneoplastic syndromes:** These syndromes develop as a result of a tumor or cancer in the body that triggers an attack on the cerebellum by the immune system. Anti-Hu, anti-Yo, anti-Ri, etc. are the common paraneoplastic antibodies that can lead to ataxia. In these conditions, ataxia may manifest much before the cancer is diagnosed.
- **Structural lesions:** Development of cancer or other space-occupying lesions of the cerebellum (congenital or acquired) can cause ataxia