Ataxia in the Adults

INFORMATION FROM PATIENTS AND FAMILIES
A NATIONAL ATAXIA NETWORK INITIATIVE
MOVEMENT DISORDERS SOCIETY OF INDIA

Ataxia in adults can appear suddenly, fluctuate over time, or progress gradually. Identifying how and when symptoms begin helps doctors determine the underlying cause.

1. Acquired (Non-genetic) Causes
These forms develop due to another illness, deficiency, or exposure and are often reversible once the cause is identified:

- ***Degenerative***: Multiple system atrophy (MSA), a form of atypical Parkinsonism, is one of the commonest causes of ataxia in adults. Postural dizziness and urinary problems are commonly associated with MSA.
- ***Stroke or bleeding in the cerebellum*:** May cause sudden unsteadiness, slurred speech, and difficulty walking.
- ***Infections***: Brain infections due to HIV, COVID19, Varicella zoster virus, etc, can cause acute or subacute ataxia. Some infections, such as prion-related Creutzfeldt-Jakob Disease (CJD), can cause rapidly developing ataxia with jerky limb movements and memory issues.
- ***Toxins and drugs*:** Excess alcohol, sedatives, anticonvulsants, chemotherapy, and chronic exposure to toluene or heavy metals can damage the cerebellum.
- ***Vitamin deficiencies*:** Low levels of vitamins B1, B12, or E can impair coordination and nerve function.
- Autoimmune disorders: Conditions such as celiac disease, autoimmune thyroid disease, or the presence of antibodies like anti-GAD, anti-CASPR2 can affect balance.
- Paraneoplastic ataxia: Rare immune reactions with antibodies like anti-Hu, anti-Yo, etc. associated with cancers of the lung, breast, or ovary that mistakenly target brain tissue, leading to ataxia.

2. Genetic Causes (For further details, see leaflets on 'What are the causes of genetic ataxia')
Some adults develop ataxia due to inherited or newly identified genetic changes. These are usually slowly progressive and may run in families.

- *Autosomal Dominant ataxias*: Known as spinocerebellar ataxias (SCAs) — for example, SCA1, SCA2, SCA3, SCA6, SCA12, SCA27B (FGF14-related).
- *Autosomal Recessive ataxias*: Such as late onset or very late onset Friedreich's ataxia, RFC1-related CANVAS (Cerebellar Ataxia with Neuropathy and Vestibular Areflexia Syndrome), spastic ataxias due to SACS or SYNE1 gene related, etc.
- *Mitochondrial ataxias*: Result from defects in the body's energy-producing structures, affecting the brain, nerves, and muscles, like POLG-related ataxia.

3. Sporadic degenerative ataxias
Some ataxias in adults may arise from neurodegenerative conditions such as Multiple System Atrophy (MSA) which is non-genetic.

Early identification helps guide management, rehabilitation, and family counselling, irrespective of the cause.