

# Paleocerebellar syndrome

It is characterized by motor disorders caused by a violation of the function of the paleocerebellum, which ensures the correct tension of the postural (antigravity) muscles and the execution of learned stereotyped movements.

## Symptoms

The syndrome is characterized by reduced resistance to passive movements - **muscle hypotonia** accompanied by **hyporeflexia**, which is manifested by a standing disorder - **astasia**. Standing and walking are unsteady with a wide base with a tendency to fall to any side - **abasia**. Spontaneous deviation to the side of the cerebellar lesion appears during the posture. Disruption of trunk axial muscle coordination - axial ataxia causes so-called large paleocerebellar asynergy manifesting in problems when changing body position such as standing up, sitting down and maintaining a standing position. The coordination disorder does not worsen when the eyes are closed. Similar symptoms are also found in neocerebellar syndrome.

## Investigation

- **Torso tilt** – during the tilt test, the patient does not bend the knees, does not shift the center of gravity and may fall to the ground.
- **Positional test** – the patient keeps his arms stretched out in front of him only for a relatively short time.
- **Rebound phenomenon** – tests for cerebellar hypotonia. The patient passively spreads the upper limbs and suddenly drops them towards the trunk. On the side of the cerebellar lesion, we observe several uninhibited reflections from the trunk.

## Etiopathogenesis

The most common reason for the functional impairment is **ethanol intoxication**, causing balance disorders, titubation and gait ataxia. The disorder can occur during a **heart attack**, or **hemorrhage** with the onset of rapid non-specific symptoms such as headache, dizziness, balance disorders, or ataxia on the side affected by the **thrombus**, or **embolism**. **Tumors of the posterior fossa of the cranium** can destroy the tissue of the cerebellum or suppress it by growth, thus disrupting the circulation of cerebrospinal fluid, which can lead to hydrocephalus. Ataxia of the limbs and impaired balance can also be caused by **multiple sclerosis** or diffuse cerebellar demyelination after a virus infection **Varicella Zoster**. In pharmacological anamnesis, it is necessary to pay attention to treatment with **hydantoin** – anticonvulsants e.g. in the treatment of epilepsy, because they can cause cerebellar disorders.

## Links

### Related articles

- Neocerebellar syndrome

### References

- NEČAS, Emanuel. *Pathological physiology of organ systems; Part 2*. 2. edition. Karolinum, 2009. 760 pp. ISBN 978-80-246-1712-1.
- SILBERNAGL, Stefan – LANG, Florian. *Atlas of human pathophysiology Atlas patofyziologie člověka*. 1. czech edition. Grada, 2001. 390 pp. ISBN 80-7169-968-3.
- BOJAR, Martin – ČERNÝ, Rudolf – VEJVALKA, Jan. *Atlas of neurology* [online]. [cit. 2011-12-05]. <<http://camelot.lf2.cuni.cz/vejvalka/neursy/>>.
- WABERŽINEK, Gerhard – KRAJÍČKOVÁ, Dagmar. *Basics of general neurology*. 1. edition. Karolinum, 2004. ISBN 80-246-0803-0.