

# Dizziness of peripheral etiology

## Dizziness

Dizziness is a **subjective feeling of imbalance**. It is accompanied by:

- an objective disorder of the interplay of position and movement – **deviations and falls**,
- **vegetative symptoms** (nausea, vomiting, heart rate changes),
- possibly anxiety.

## Division

1. **vestibular**
  - **peripheral** – damage to the labyrinth or n. VIII,
  - **central** – damage to the nuclei, pathways or cerebellum.
2. **extravestibular** – with eye disorders and proprioception

 For more information see *Vestibular syndrome*.

## The most common etiology of vestibular vertigo

- overloading of the apparatus due to movement or an inappropriate gravitational field (weightlessness),
- inflammations, tumors, injuries, toxins, drugs...

## Symptoms

**Peripheral disorder** – harmony of individual symptoms (nystagmus, falls, deviations...).

**Central disorders** – characterized by disharmony - there is no connection between nystagmus and falls hearing impairment is absent, often there are other neurological symptoms.

## Characteristics of dizziness

- nature (turning, swaying, feeling of falling, weakness),
- prodromes of dizziness (pressure in the ear, headache, tinnitus),
- provoking factors (smoking, alcohol, drugs, position, movement, noise, optical sensations...),
- accompanying manifestations (hearing loss, tinnitus, vegetative symptoms, neuro symptoms),
- duration and intensity – vertigo primarily means spinning dizziness,
- symptoms – malaise, vomiting, sweating, palpitations, nystagmus and ataxia (gait disorder).

## Peripheral vestibular syndrome

It is caused by impairment of the balance system and/or nerve. In general, the more peripheral the lesion, the more accurate the patient's sense of the condition.

### Unilateral disability

There is rotational vertigo with nausea, usually hearing is also affected. Difficulty worsens with head movements.



Optokinetic nystagmus

### Bilateral disability

The patient complains of gait disturbances and unsteadiness (so-called ataxia). Difficulties worsen in the dark and on an uneven surface, there is often blurred vision during rapid head movements (so-called oscillopsia). Paradoxically, a bilateral chronically progressing lesion does not have many symptoms.

## Nystagmus

**Spontaneous nystagmus** is almost always present – horizontal or horizontal-rotational, unidirectional, often II-III degrees.

- the intensity of nystagmus increases when looking in the direction of the fast component (*Alexander's law*),
- there is a positive correlation between the intensity of vertigo and nystagmus.

In this syndrome, vertigo without nystagmus and nystagmus without vertigo do not occur - eye fixation inhibits peripheral nystagmus (to prove it, we must avoid fixation - we use, for example, Frenzel glasses - thick glasses (+15D)...).

**Nystagmus shows signs of fatigue** – when the patient tries to stay longer with the eyes in one position, it disappears over time.

- to the side of the diseased labyrinth it is **irritating**, to the opposite side **it is destructive**.

## Symptoms

The syndrome is **harmonious** – all deviations have the same direction (eyes, movements...), only the fast component of the nystagmus goes in the opposite direction.

- **The intensity of the symptoms** is determined by the size of the difference between the two apparatuses - tonic deviations are always directed to the side of the weaker apparatus (the stronger one pushes it...), i.e. to the side of the lesion - the slow component of the nystagmus goes to the side of the lesion, the fast component (given by the cerebral cortex's desire for correction) is in the opposite direction.
- **The direction of standing deviation** depends on the position of the head, it usually **deviates behind the affected ear** – if the right ear is affected and we turn our head to the right, we fall backwards.

## Benign paroxysmal vertigo

This is one of the **most common causes of peripheral vertigo**. A typical example is *paroxysmal vestibular dysfunction*.

- the basis is the **pathology of the posterior semicircular canal** caused by the degeneration of the utricular macula - damage occurs after trauma, after surgery in the middle ear, after infection, aging.

## Etiology

Small particles of cells containing minerals (otoconia) are released from the macula and travel into the canal - when moving the head, they affect the flow of endolymph, causing irritation.

## Clinical picture

typical - with a certain position of the head, severe rotational vertigo occurs:

- the patient's position is always the same - dizziness usually disappears within a few seconds,
- other parts of the ear are not damaged (no tinnitus or hearing loss...).

## Therapy

- **maneuver according to Semont** – the goal is to remove otoconia from the canal.

## Vestibular neuronitis

- a common cause of vertigo - there is a sudden, complete, unilateral loss of vestibular function
- **etiology** – probably viruses
- **symptom** – sudden onset, severe rotational vertigo, nausea and vomiting, hearing loss and tinnitus are not
- within a few days the situation will be corrected
- **treatment** – corticoids

## Meniere's disease

 For more information see *Ménière's disease*.

## Links

### Source

- BENEŠ, Jiří. *Studijní materiály* [online]. ©2007. [cit. 2009]. <[http://jirben2.chytrak.cz/materialy/orl\\_jb.doc](http://jirben2.chytrak.cz/materialy/orl_jb.doc)>.

### References

- KLOZAR, Jan, et al. *Speciální otorinolaryngologie*. 1. edition. Galén, 2005. 224 pp. ISBN 80-7262-346-X.