

# Convulsions

Such **convulsions or cramps** are called uncontrolled *tonic* or *clonic* spasms of the muscles that unlike **fibrillation** (a muscle contraction without a locomotor effect) or **twitching** (a contraction of one muscle fibre) almost make the implementation of any voluntary activity impossible. Although they may be a completely benign phenomenon (typically cramps on the dorsal side of the thigh during sports or kneeling), they are often a side effect of serious illnesses (encephalitis, epilepsy, intoxication, hypoglycemia). Whole-body convulsions are usually associated with a profound disorder of consciousness.

## Dividing by clinical picture

For clinical purposes, convulsions are most often divided into:

- **Clonic** (short-lasting, recurrent twitches)
- **Tonic** (longer lasting muscle contractions)
- **Tonic-clonic** (combination of the two, typical of *grand mal* seizures)

## Division according to the causes

Simple aid for use on the patient - A dozen causes of unconsciousness

- Metabolic (hypoglycemia)
- Neurological (typically epilepsy)
- Intracranial expansion processes
- Febrilia (febrile convulsion occur mainly in children under 2-3 years of age)
- Affective respiratory attacks (in young children due to intense emotions - crying, laughing, when convulsions are provoked by temporary apnea)
- Syncope (in this case it is more of a rarity - so-called *convulsive syncope* with short-lasting convulsion)
- Deficiency of vitamins or minerals (sodium, potassium, magnesium) or, conversely, their excess

thumb|Tetanus – opisthotonus

- Tetanic convulsions
- Endocrinopathy (hyperthyroidism)
- Eclampsia
- Intoxication - typically central psychostimulants (derivatives of excitatory amines)
- Withdrawal syndrome (Delirium tremens, withdrawal from benzodiazepines or barbiturates)
- Psychiatric
  - as a result of psychiatric illnesses without primary neurological causes
  - in neurodegenerative diseases
  - somatoform (psychosomatic) disorders - *pseudo-convulsions*
  - iatrogen-induced prolonged major seizures (GTCS) in electroconvulsive therapy (case studies)

## Treatment

It is always necessary to keep in mind that convulsions are a symptom, and it is therefore necessary to treat their cause, not the convulsions themselves. However, the truth is that mostly clonic spasms can cause complications during treatment (during additional examinations, cannula insertion, etc.). In justified cases, it is therefore necessary to suppress muscle contractions. **Benzodiazepines** v (eg diazepam) are typically used for this purpose, especially in the case of status epilepticus. Other **antispasmodics** or **muscle relaxants** are possible. It is necessary to proceed with caution in case of intoxication with CNS depressants (alcohol, benzodiazepines, opiates), or in case of withdrawal from benzodiazepines - in this case, for example, clomethiazole (Heminevrin) may be indicated.

### Adult patients

In most adult patients, the cause of the **epileptic seizure grand mal**, which usually does not endanger life in itself. In such a case can be given **diazepam** or **phenytoin** i.v. **Diazepam** also serve in the **convulsions of unknown origin**

If **hypoglycemia** is suspected, we administer 0,2–0,5 g **glucose**/kg i.v.

In case of **tetanic convulsions**, we give 10 ml of 10% solution of **calcium chloratum** i.v., possibly even 10 mg of a 10% **magnesium sulfate** solution.

### Children

**In children** these are usually **febrile convulsions** , which can be alleviated by **diazepam** administrated rectally (i.v. application could cause that an already traumatized child would be even more upset). **Antipyretics** are a matter of course.

If **tetanic convulsions** are suspected, we administer 5 ml of a 10% solition of **calcium chloratum** i.v. and 5 ml of a 10% solution of **magnesium sulphate**

It is important to keep in mind that the convulsions themselves can sometimes endanger the patient's life (aspiration of regurgitated gastric contents, convulsions-related falls associated with head injuries).



## Links

### Related Articles

- Epilepsy
- Intoxication
- Encephalitis
- Hypoglycemia
- Antispasmodics
- Myorelaxants
- Parasympatholytics

### References

- 
- 

Kategorie:Neurology Kategorie:Physiology