

# Migraine

**Migraine pain** has a characteristic but non-uniform course made up of different phases. Phase 1, also known as the "aura", is composed of variously combined prodromes including scotoma, nystagmus, photophobia, dizziness, nausea and sometimes tinnitus. In this stage predominant vasoconstriction of the cerebral vessels occurs. In Phase 2, variously localized, stubborn, pulsating headaches (bound for example to one half of the head) last for several hours. In this stage dilation of intracranial vessels occurs. The 3rd phase is usually characterized by persistent dull headache, stemming mainly from extravascular transudation of the plasma i.e. the formation of perivascular cerebral microedema.

## Humoral changes during migraine

**Serotonin**, which is initially secreted, has been shown to play an important role in the development of migraine. It acts on the vessels causing vasoconstriction and propagation of the platelets, which corresponds to the early phase. However, due to its influence, inflammatory changes start to appear accompanied by vasodilation and increased permeability which gradually develop perivascularly with the help of a couple of other neurotransmitters including histamine. This results in the leakage of water and electrolytes perivascularly and the irritation of sensory endings in the meninges and blood vessels.

## Therapy

Pharmacotherapy is guided by the above findings. It is polyvalent, with a better chance of success if it is started in time, i.e. **preventively**, especially in the prodromal phases. In this sense, the following are applicable:

- **platelet aggregation inhibitors** (*acetylsalicylic acid*),
- **antiserotonin substances** (*methylsergite* and *lisuride*),
- Additional **substances which inhibit simultaneously the effects of serotonin and histamine** (*cyproheptadine*, *pizotifen*)
- **$\beta$ -lytics** (not a fully elucidated mechanism).

In the phase of already **developed migraine pain**, **analgesics** (especially *salicylates* and *nonsteroidal anti-inflammatory drugs*) and substances **influencing vascular tone** - *sumatriptan*, *ergotamine* - can be partially influenced according to individual reactivity

## Links

### Related articles

- Migraine
- non-opioid analgesics
- Opioid analgesics

### References

- MARTÍNKOVÁ, Jiřina, Stanislav MIČUDA and Jolana ČERMÁNKOVÁ. *Selected chapters from clinical pharmacology for bachelor study: Migraine Therapy [online]* © 2001. [feeling. 2010-07-11]. <<https://www.lfhk.cuni.cz/farmakol/predn/bak/kapitoly/bolest/migrena.doc/>>