

# Expectoration



Expectorants are a heterogeneous group of drugs that facilitate the removal of viscous sputum

from the airways. Submission is usually by post. or by inhalation. We indicate them in the short-term for colds to facilitate the removal of mucus from the airways and productive cough, or in the long-term for asthma, COPD and cystic fibrosis. According to the mechanism, we divide them into: "mucolytics, secretolytics and secretomotorics".

## Mucolytics

They reduce the viscosity of mucus by affecting its physical and chemical properties. Not suitable for use with antitussives due to the risk of mucus accumulation.

### Representatives:

- **N-acetylcysteine** - causes mucolysis by reducing disulfide bridges, thus reducing mucus viscosity (in 10-15 min after inhalation, p.o. the effect is in order hours). It is a protease inhibitor, a radical scavenger, it supplies -SH (an antidote to paracetamol).
- **Template:HVLP** - has mucolytic and secretomotor effects, it is formed as a metabolite of bromhexine. It stimulates the production of surfactant, increases the activity of the ciliated epithelium and macrophages. Rare adverse effects affecting the GIT (**contraindicated in gastroduodenal ulcer disease**). It is given p.o., parenterally and by inhalation.
- **Template:HVLP** - p.o., parenterally and by inhalation, can have adverse effects affecting the GIT, therefore it is unsuitable for gastric ulcers.
- **Template:HVLP** - loosens disulfide bridges, reduces the elasticity and viscosity of mucus, reduces the production of pro-inflammatory cytokines, the adhesion of G+ and G- bacteria and, according to some studies, increases the penetration of some ATB into sputum. It acts synergistically with  $\beta_2$  agonists, therefore it is suitable for the treatment of bacterial infections of the respiratory tract, COPD, therapeutic effect after 3-4 days.
- **Guaifenesin** - supports the secretion of bronchial glands, reducing mucus viscosity, at the same time antitussive and weak myorelaxant and anxiolytic effect. The disadvantage is that it enhances the effect of depressants on the CNS, it is currently not indicated for the treatment of cough

## Secretolytics

They are expectorants that stimulate the activity of the bronchial glands. They thereby increase the production of serous mucus in the airways and reduce mucus viscosity. Most of the "phytopharmaceuticals" listed below that act as secretomotors also have a secretolytic effect.

## Secretomotor

They facilitate mucus transport by activating the ciliated epithelium. These are mainly natural substances (essential oils).

### Representatives:

- Template:HVLP;
- Template:HVLP;
- pini pumilionis etheroleum.

## Links

## Related Articles

- Antitussives

## External links

- Expectorance (Czech Wikipedia)

## References

- LINCOVÁ, Dagmar, et al. *Basic and applied pharmacology*. 1. edition. GALÉN, 2002. 601 pp. ISBN 80-7262-168-8.
- VYHNÁNKOVÁ, Ludmila. Cough in diseases of the upper respiratory tract. *Pediatrics for practice* [online]. 2006, y. 1, vol. 1, p. 8-12, Available from <<https://www.solen.cz/pdfs/ped/2006/01/02.pdf>>. ISSN 1803-5264.