

Histamine Determination in Stool



Small Intestine Villus

Histamine Determination in Stool

A new marker for histamine intolerance or food allergies

Millions of people suffer from gastrointestinal problems, diarrhoea, tachycardia, migraine, nasal mucosa irritations, erythema and other allergy-similar symptoms. Too much histamine in the body may be responsible for these symptoms.

Histamine intolerance (HIT) occurs if the organism cannot metabolise histamine fast enough. Histamine is either consumed with food or released by the body's own cells.

Histamine - a biogenic amine - is developed by histidine decarboxylation. As mediator it is responsible for many allergic and pseudoallergic reactions. It is an endogenous substance, of which high concentrations are also contained in many foods, e.g. in red wine, mature cheese, smoked sausage, tomatoes, tuna fish and sauerkraut.

Diamine Oxidase (DAO) is the important endogenous enzyme, which is responsible for metabolizing histamine in the organism. Diamine oxidase is mainly present in small intestine, liver, kidneys and blood granulocytes. The DAO enzyme activity regulates the metabolisation speed of histamine.

In pregnant women additional DAO is developed in the placenta. Pregnant women have about 500 to 1000 times higher DAO blood levels than non-pregnant women. This also explains the freedom of complaints in case of rhinitis allergica and asthma bronchiale between the 3rd and 9th month of pregnancy.

Histamine intolerance is not ranked among classical food allergies as the immune system is not involved in intolerance reactions; this means no antibodies (IgE) are developed. Histamine intolerance is defined by an imbalance between histamine and the histamine metabolizing enzyme DAO. According to hitherto existing clinical experience, histamine intolerance is not a congenital, but an acquired disorder. It might be caused by medication inhibiting DAO. Alcohol and its metabolic product acetaldehyde also have an inhibiting effect.

In case of DAO deficiency respectively DAO activity inhibition histamine is not metabolized adequately. Symptoms of histamine intolerance occur.

Verification Procedure - Diagnostics

For some years now biovis has been offering the analysis of amine oxidase activity in serum to prove histamine tolerance. The test procedure is easy and does not require any special pre-analytics (stable 1 week at room temperature).

Now also the histamine content can be determined directly in stool. This became possible due to the development of an innovative stabilizing buffer, which inhibits the histamine decomposition by proteases in stool. If high histamine concentrations are determined in stool one can come to conclusions about histamine intolerance or IgE-mediated food allergies. But also histamine producing disorders and chronic inflammatory gastro-intestinal diseases (celiac disease, Crohn's disease) may be the cause. Also IgG4 mediated food intolerances can lead to histamine release under certain conditions. Routine histamine determinations in stool also serve for reliable assessments of the success of elimination diets.

Simultaneous determinations of DAO activity and histamine in stool provide for important differential-diagnostic indications to differentiate histamine intolerance and food allergies.

Sample material: Stool/Test Set

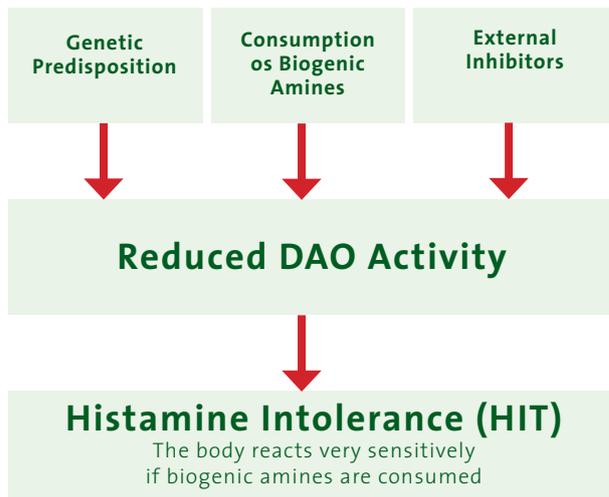
Self-Pay Patient: 29,15 Euro

Private Patient: 33,52 Euro

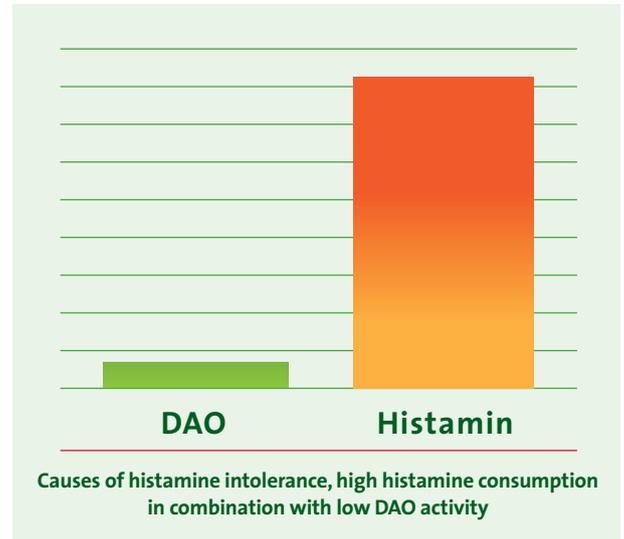
Literature:

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 Wershil B.K., W.A. Walker: The mucosal barrier, IgE-mediated gastrointestinal events, and eosinophilic gastroenteritis. *Gastroenterol. Clin. North. Am.* 21, 387-404 (1992)
 Raithel, M., E.G. Hahn: Mediatordiagnostik am Gastrointestinaltrakt. In: Hahn E.G., J.F. Riemann: *Klinische Gastroenterologie*. Georg Thieme, Stuttgart 2000, 108-110

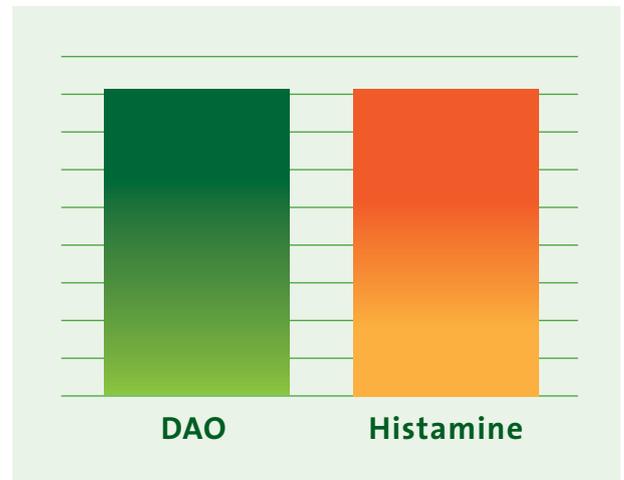
Picture 1: Causes of Histamine Intolerance



Picture 2: DAO and histamine in stool in case of HIT (histamine intolerance)



Picture 2: DAO and histamine in stool in case of food allergies



Do you have further questions?

Please call us!

We gladly provide information

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