

Experts warn of the consequences of polypharmacy on the bio-factor status

In a recent publication in the journal "Primary and Hospital Care" from April 2019, doctors point out the problems of polypharmacy in the elderly. According to the latest information, pensioners take an average of 5.6 medications. This figure rises to 9.3 in the case of residents of retirement and nursing homes. For each additional medication, the risk of hospitalisation, admission to a nursing home and death increases by 8.6% (1), according to medical experts.

Against the background of these alarming figures, the German Society for Biofactors (GfB) has issued an appeal for more attention to be paid to the influence of drugs on the biofactor status. Many medications can cause deficiency symptoms and considerably worsen the patients' state of health as a result.

Many medications can lead to a lack of biofactors

"The influence of drugs on the supply of biofactors, which include vitamins, minerals and trace elements in particular, has so far been largely neglected in the fields of medicine and pharmacy," warned GfB scientists in a review published at the end of 2018, in which they critically assessed the impacts of some frequently prescribed drugs on the biofactor balance (2).

In their publication, the experts emphasised the key importance of biofactors for health. These have made a valuable contribution to both the prevention and treatment of diet-related disorders.

Drugs put a strain on the biofactor balance

Medicines and biofactors are often absorbed, processed and excreted by the organism via the same transport and metabolic pathways. If patients have to take one or more drugs, they are at increased risk of negative interactions between these drugs and the biofactor status. In the publication referred to above, the experts specifically investigated the influence of proton pump inhibitors (PPI), diuretics, statins and the anti-diabetic metformin on the supply of biofactors.

Antacids and vitamin B₁₂ deficiency

Proton pump inhibitors (PPI) belong to the antacid drug group and are prescribed very frequently worldwide. Nearly 50% of older people take these acid blockers for heartburn, reflux, gastritis and other stomach disorders on a regular basis – over a period of many years as a rule. Acid blockers inhibit the activity of the parietal cells in the stomach. These parietal cells produce the gastric acid which the organism needs in order to dissolve vitamin B₁₂ out of the protein in the food. Furthermore, the parietal cells form the intrinsic factor required for vitamin B₁₂ absorption. There is then a threat of vitamin B₁₂ deficiency.

The scientists are therefore calling for regular blood tests to be carried out in order to detect a deficiency of this biofactor. If necessary, vitamin B₁₂ supplementation is recommended to prevent deficiency symptoms such as physical and mental weakness, cognitive disorders, depression, anaemia and neurological disorders.

Acid blockers lead to mineral deficiency

At the high pH value associated with PPI therapy, minerals – especially magnesium, but also trace elements such as iron – cannot be sufficiently absorbed. The scientists emphasised that patients undergoing long-term antacid therapy can develop magnesium deficiency and therefore benefit from magnesium supplementation.

Even though it has not been possible to show any connection so far between long-term PPI therapy and iron deficiency anaemia, the experts recommended that risk groups such as vegans, vegetarians, senior citizens and patients with a Helicobacter infection should bear in mind the increased risk of iron deficiency caused by antacids.

Other drugs can also result in a lack of biofactors

The scientists also described the influence of thiazide diuretics, statins and the anti-diabetic metformin on the biofactor balance. In the case of diuretic treatment with thiazides, the experts emphasised in particular the increased risk of magnesium deficiency. In patients undergoing cholesterol-lowering therapy with statins, particular attention should be paid to a possible deficiency of the biofactors vitamin D, selenium and coenzyme Q10. Furthermore, the scientists emphasised the increased risk of vitamin B₁₂ deficiency when metformin is taken as an anti-diabetic therapy.

Conclusion of the experts: Biofactor status checks important

The influence of medications on the biofactorial balance should be taken into consideration, especially if the medications are taken over many years. In the opinion of the scientists, affected patients should be examined regularly in order to detect any drug-related deficiency of biofactors and, if necessary, compensate for it with supplements. This can prevent serious consequences of a lack of vital biofactors.

Sources:

- (1) Prim Hosp Care Allg Inn Med. 2019; 19(04): 113-115
<https://primary-hospital-care.ch/de/article/doi/phc=d.2019.10047/>
- (2) Gröber U, Schmidt J, Kisters K: Important drug-micronutrient interactions: A selection for clinical practice. Critical Reviews in food science and nutrition.
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