



Editorial

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A Short Note on Food Drug Interactions

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DESCRIPTION

Food allergy is defined by an unusual immunological response to a safe food component, most commonly a protein. In the case of antibody-mediated (immediate hypersensitivity) food allergies, the body produces specific immunoglobulin-E antibodies and releases chemical mediators such as histamine within minutes or hours of allergen exposure, resulting in mild to life-threatening gastro-intestinal, skin, or respiratory symptoms. Food allergies that are cell-mediated (delayed hypersensitivity) are significantly less common, with a localised inflammatory reaction and associated symptoms that can take up to a day to occur. Food intolerances or sensitivities are allergic reactions to foods that do not involve the immune system, such as food poisoning or sickness. The most common of these is lactose intolerance, which is caused by a chromosomal deficiency in the enzyme lactase, which is required to digest the milk sugar lactose.

Celiac disease (also known as celiac sprue, nontropical sprue, or gluten-sensitive enteropathy) is a hereditary disorder characterised by intolerance to wheat gluten and similar proteins from rye and barley. Recent research suggests that oats may be safe if they are not contaminated with wheat. Celiac disease, which is considered to be a kind of cell-mediated food allergy, typically affects persons of European origin and affects those of African or Asian ancestry rarely. This is characterized by inflammatory destruction of the mucosal cells that line the small intestine, causing the nutritional mal-absorption and symptoms includes diarrhoea, fatigue, weight loss, bone pain, and neurological abnormalities. Multiple nutritional abnormalities can arise in children, resulting in stunted growth. Autoimmune illnesses, particularly autoimmune thyroid disease and type 1 diabetes, have been linked to the disease. Although celiac disease is deadly if it is not treated, people who eliminate gluten from their diet can recover.

Arsenic occurs naturally in the drugs can either inhibit or enhance food absorption, resulting in nutrition imbalances. A prominent example is diuretics, which is used in the treatment of high blood pressure that increases the potassium levels in the body. Drugs that modify the pH (acidic levels) of the GI tract, inhibits digestive function, or bind to nutrients can all have an impact on nutritional absorption. The use of laxatives, antacids, or mineral oil on a regular basis, may decrease nutrient absorption and lead to deficiency over time. Elderly persons who use multiple drugs are particularly sensitive to nutritional issues. Foods may alter drug absorption or interact negatively with pharmaceuticals, resulting in drug inefficacy or toxicity. For example, Proteins along with vitamin B6, can diminish the efficacy of levodopa, which is used in treating Parkinson's disease.

Tyramine, an amino-acid derivative found in old cheese and wine, and has been associated with hypertension in persons using Monoamine Oxidase (MAO) inhibitors for depression. Grapefruit juice contains compounds that can inhibit the metabolism of several drugs, by reducing their absorption and efficacy. Cholesterol-lowering statins, calcium channel blockers, anti-convulsants, oestrogen, antihistamines, protease inhibitors, immune-suppressants, antifungal agents, and psychiatric therapies are among these medications.

For example, Vitamin C, E, beta-carotene, and selenium, may diminish the efficacy of some drugs (e.g., high-dose niacin in combination with statins) in increasing HDL cholesterol levels and improving cardiovascular health. Herbal supplements can also have an impact on the metabolism of drugs such as protease inhibitors, anticoagulants, and antidepressants, as well as the effectiveness of oral contraceptives.