

Soya products can trigger serious allergic reactions in birch pollen allergy sufferers

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Soya protein is a common food in Europe. It may be contained in various products: in beverages, sauces or added to various foods. Hence adults consume on average small amounts of soya protein daily without knowing it. Exact consumption amounts are not known. Some consumers intentionally consume large amounts of soya which is said to have a favourable impact on health. However, soya can also trigger allergies; one special form is the pollen-associated food allergy. In the case of this cross-allergy consumers with a birch pollen allergy suffer allergic reactions of varying degrees of severity when they consume soya products. They range from the “oral allergy syndrome” like itching, swollen lips or swelling in the oropharynx down to anaphylactic shock which, in extreme cases, can lead to circulatory arrest. The Federal Institute for Risk Assessment (BfR) has assessed the risk of cross allergies between birch pollen and soya.

Soya beans contain various allergens. The cause for the cross-reaction is the stress protein Gly m 4 that belongs to the PR-10 group. Its structure is similar to that of the birch pollen allergen Bet v 1 (50% sequence homology). No threshold dose can be indicated for the triggering of a pollen-associated soya allergy. Frequently, minor mucosal contact with the allergen is sufficient to trigger a reaction. There are no representative figures about the consumers affected. It is estimated that around 16% of the population in Europe suffers from a pollen allergy of whom between 10 and 20% (i.e. 2-3% of the population) develop a cross allergy to soya protein.

Not all soya products contain this cross allergen. Gly m 4 is destroyed during the production of soya products by fermentation and heating. Hence it was not detected in soya sauces, miso or in roasted soya beans but it was found in tofu, soya drinks, bars and soya flakes. The only way of protecting birch pollen allergy sufferers from a possible allergic reaction from eating soya is to forgo the food that triggers the allergy. As all foods to which soya has been admixed must be labelled, BfR is of the opinion that additional, mandatory warnings for birch pollen allergy sufferers are not needed on soya products. Besides soya there are numerous other foods to which birch pollen allergy sufferers react with a cross allergy. They include apples, strawberries, hazelnuts, carrots and celery. Hence a warning only on soya products would not offer a birch pollen allergy sufferer any reliable protection from a cross allergy. Around 70% of all pollen allergy sufferers develop a cross allergy with foods, mostly fruit, vegetables or nuts.

BfR recommends raising awareness amongst pollen allergy sufferers and particularly amongst birch pollen allergy sufferers about the risk of a cross allergy with food, for instance soya products through the attending physicians and patient organisations. The individuals concerned should take every sign of an allergic reaction when consuming food seriously and avoid that food in future.

The full version of the BfR Opinion in German is available on http://www.bfr.bund.de/cm/208/sojaprodukte_koennen_bei_birkenpollen_allergikern_schwer_e_allergische_reaktionen_ausloesen.pdf