

F27 Effects of semicarbazide exposure on endocrine pancreas morphology

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Semicarbazide is a lathrogen detected several times in the food, which has been linked to the use of plastic seals. The aim of this study is to evaluate morphologic changes of endocrine pancreas in the presence of semicarbazide hydrochloride in the food.

Thirty animals were randomly distributed by three groups of ten. Group I was submitted to no manipulation. Group II was submitted to the administration of hydrochloride semicarbazide 3 g/kg for 4 weeks, incorporated in the diet, and group III at a dose of 6 g/kg. All the animals were sacrificed on the 30th day and the necropsy was performed. The pancreas was collected for histology and morphometric evaluation. The profile area of the pancreas tissue was calculated and divided into five categories for the control group (very small: VS, small: S, median: M, high: H and very high profile: VH), which were compared with the control ones.

In the group I the percentage of each group was: VS 68.92, S 15.54, M 8.78, H 5.41 and VH 1.35. In the group II the percentage of each group was: VS 76.96, the S 20.79, M 1.79, H 1.12 and VH 0. In the group III the percentage of each group was: VS 74.35, S 14.53, M 5.98, H 2.56 and the VH 3.41.

We found small differences in the distribution of the groups with an increase of the smallest in the groups submitted to the toxin.

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F28 Quantitative risk assessment of food allergens

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Is precautionary labelling of an allergen necessary? Is a recall of a contaminated product required?

In order to determine the risk of unintended exposure to food allergens, a deterministic approach is usually

applied, often leading to inconsequential conclusions as 'an allergic reaction cannot be excluded'. This is a poor basis for decision making in risk management which aims at protection of the allergic part of the population and avoidance of unnecessary labelling or recalls.

We therefore developed a quantitative risk assessment model for allergens based on probabilistic techniques resulting in a more accurate risk assessment.

As a proof of concept, a case study (hazelnut proteins as contaminant in chocolate spread) has been elaborated. The probability of an allergic reaction is estimated by including the proportion of the population who is allergic, the likelihood and amount of consuming a certain product (in this case chocolate spread), the likelihood of the food accidentally containing the allergen and if so, the concentration, and minimal eliciting doses (MEDs) for the allergen.

In contrast to the deterministic approach, the probabilistic model results in detailed information on the percentage of consumers at risk, if required itemized per gender, consumption moment or severity of reaction. Additional data on MEDs and food consumption patterns in allergic populations will improve the accuracy of the model.

Quantitative risk assessment of allergens is a prerequisite in the withdrawal of exaggerated allergen labelling, which unnecessarily limits the choice of allergic consumers. The discussion on acceptable levels of rest risks can now begin.

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F29 Hepatic effects of mixtures of butylated hydroxytoluene, curcumin, propyl gallate and thiabendazole on clinical and hepatic biochemical parameters in male Sprague–Dawley rats

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Recently, the ILSI Europe Acceptable Daily Intake Task Force concluded that for four food additives, butylated hydroxytoluene (BHT), curcumin (CC), propyl gallate (PG) and thiabendazole (TB), the possibility for joint actions or interactions was not excluded for the liver.