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CHIMALI 2018
CAMERINO

Gruppo Interdivisionale
Chimica degli Alimenti

hr

CHIMALI

XII Italian Food Chemistry Congress

Camerino, September 24-27, 2018

Auditorium Benedetto XIII - via Le Mosse - Colle Paradiso

PLENARY LECTURES

PL01 Where does the red wine bouquet come from? A Sensomics journey to unravel the unique aroma signature of red wines and its formation on a molecular level.

PL02 Non-enzymatic transglycosylation reactions in foods: implications in composition, traceability and quality.

PL03 Specific inhibition of VEGF-family receptor tyrosine kinase signalling by binding of polyphenols directly to the receptor ligands.

PL04 Nutraceutical approach to cognitive decline.

PL05 Milk proteins – nano by nature: Structures, functions, functionalization.

PL06 Reactions of thermally induced neo-formed compounds in foods during digestion.

PL07 Mycotoxins in food: a continuous occurrence.

PL08 Food design and food digestibility.

KEYNOTES

KN01 Modern strategies and techniques of analysis of the volatile fraction as a tool for food control and characterization.

KN02 Hemp seeds: not only a reservoir of cannabinoids.

KN03 A multidisciplinary approach to disclose novel interfering effects on Vitamin D metabolism due to Aflatoxin B1 exposure.

KN04 Circular Bioeconomy in the Food Chemistry Sector.

KN05 Olive mill by-product (pâté) and decoction from pomegranate fruit as new functional ingredients.

KN06 The role of innovative analytical techniques in food chemistry.

KN07 Using a multianalytical approach to study structural aspects in minimal processed food design.

KN08 Food Integrity European Project - Assuring the integrity of the food chain: Turning Science into solutions!

KN09 Food supplements containing botanicals: a scientific challenge ranging from bioavailability to adverse events.

KN09- Food supplements containing botanicals: a scientific challenge ranging from bioavailability to adverse events

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Food supplements containing plant extracts (botanicals) have received a growing interest in the population with a consequent expansion of the market in which thousands of products and hundreds of producers are now present.

The success obtained by this category of products is part of the general demand by the consumer of "all natural" products, which in the collective imagination is synonymous of safety.

Food supplements, being regulated by the food law, cannot boast therapeutic properties and their health contribution should be limited to the maintenance of homeostasis and wellbeing.

The choice of a plant extract for the formulation of products intended to maintain consumer's health is based mainly on the "tradition of use", often not supported by rigorous scientific studies. At the same time, the collection of data related to adverse events is affected by the limited reporting of symptoms that, if they do not require hospitalization, are unlikely to be associated with supplements by the consumer.

In this context, which has international significance, several committees have issued guidelines for the risk/benefit assessment of the chronic consumption of nutritional supplements containing botanicals. As for the countries of the European Union, the reference guidelines are those published by EFSA (European Food Safety Authority); this document describes the studies necessary to obtain a positive opinion regarding a certain health function [1].

Equally important is the collection of adverse effects, in which causality (correlation between the intake of a certain product and the clinical event) must be clearly assessed.

The EFSA's guidelines, on the one hand, have provided indications on how to proceed in performing human studies, and on the other have raised the critical issues associated with:

- the studies required for the evaluation of the efficacy of food supplements containing plant extracts must enroll healthy subjects willing to maintain for a quite long period a controlled diet with added (active group) or not (control) the product/extract of interest;
- having to evaluate physiological effects, the number of people required is very high, the times are long and the costs high;
- it is not always possible to establish the molecule/s responsible for the effect, to measure their bioavailability and metabolism;
- the identification of biomarkers of exposure is critical but it is not always easy as well as to measure their low concentrations in blood or urine;
- adverse events are possible but are often difficult to interpret.

The presentation will describe some practical examples, with the indication of the most important problems; strategies to reduce the complexity of human studies and to perform a careful phytovigilance that identifies adverse reactions due to plant extracts as such or for interaction with conventional drugs [2].

References:

1. European Food Safety Authority, EFSA Journal, 7, 1249 (2009)
2. Restani Ed. Food supplements containing botanicals: Benefits, side effects and regulatory aspects, Springer International Publishing (2018)