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Polyphenols in obesity: New perspectives from a network based approach

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Obesity is a multifactorial pathology due to an excessive accumulation of fats in adipose tissue and peripheral organs. Also oxidative stress and inflammation exert a central role in the onset and progression of this pathology. Other events occurring along with obesity consist of the alteration of vascular and gastrointestinal smooth muscle contractility, oxidative stress mechanisms impairment, liver alterations, increases of serum lipids. Medical therapies recommended for obesity include a wide spectrum of pharmaceutical molecules, such as, among others, sibutramine, orlistat, lorcaserin, phentermine, liraglutide. In face of the severe side effects of these drugs, natural products and vegetal extracts are now preferably used for the management of obesity, overweight and related disorders. In this study, we evaluated the effects of a

natural chestnut wood extract (NCWE) against different parameters altered in obesity, including body weight, food intake, liver functionality and histology, liver phase I and II enzymes, gastrointestinal oxidative stress, serum lipids and cytokines. For this purpose 120 male Sprague-Dawley rats were used and divided into 4 groups: Regular diet (RD) fed rats, High Fat Diet (HFD) fed rats, RD fed rats administered with NCWE (20 mg/Kg), HFD fed rats administered NCWE (20 mg/Kg). The parameters were assessed after one week of treatment, two weeks of treatment and three weeks of treatment. HFD rats underwent significant modifications of most measured parameters that were inhibited by NCWE treatment. The data support the potential use of NCWE for the management of obesity and related disorders.

Biography

Matteo Micucci has completed his PhD at University of Bologna and Postdoctoral Studies from Department of Pharmacy and Biotechnology, University of Bologna. He has published more than 25 papers in reputed journals and has been serving as an editorial board member of several conferences.

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