CATECHINS — BIOLOGICAL ACTIVITY AND ROLE IN THE PREVENTION OF CARDIOVASCULAR DISEASES

Summary

The aim of the present review was to shortly describe the main aspects of the role of natural phenolic antioxidants - catechins in the counteracting cardiovascular diseases. The scientific interest in these substances is a result of both their significant amounts in human diet, and a wide range of biological activity. Catechins are naturally present in fruits (plums, apples, strawberry, peach), vegetables (like beans, lentil), tea, cacao and red wine. The biological activity of catechins includes antioxidant, anti-inflammatory, antimutagenic effects, as well as cardiovascular disease-preventive properties.

Chemically, catechins constitute a group of polyphenolic compounds, based on the flavanol structure. These avonoids consist of two polyphenolic aromatic rings (C_6-C_3-C_6) with hydroxyl groups. In regard to the variations of the heterocyclic ring, catechins are categorized as free catechins: (+)-catechin, (+)-gallocatechin, (–)-epicatechin and (–)-epigallocatechin, as well as galloyl catechins: (-)-epicatechin gallate, (-)-epigallocatechin gallate and (-)-gallocatechin gallate.