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Bioresorbable structures loaded with ginger and hot pepper extracts as possible application in some cardiovascular diseases

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Cardiovascular disease is the first cause of death; it kills more people than the next four causes of death summed every year (around 17 million deaths worldwide). It was proven that almost 80% of heart diseases can be prevented if you pay attention to diet and the lifestyle that could favor the onset of these disorders. Spices like chilli pepper, cinnamon, ginger, garlic etc. can be ofen used to reduce LDL cholesterol and triglyceride levels, to dissolve blood clots, to purify the blood and to reduce the risk of irregular heart rhythms. Unfortunately, people rarely consume these spices due to their health problems (stomach ulcers or ulcerative colitis) or to the unpleasant odor which is known as garlic breath. In this study, bioresorbable structures based on poly(ester-ether urethane) were synthesized using poly(epsilon-caprolactone)-poly(ethylene oxide) and hexamethylene diisocyanate as raw materials; ginger and/or hot pepper extracts were used as active substances. These polymer structures, a possible application as drug delivery system, were characterized by HPLC/MS analysis for determination of yield of encapsulation, thermal analysis for evaluation of products' stability, zetasizer analysis for determination of structures sizes and *in vivo* evaluations of skin parameters (erythema and transepidermal water loss) were done using SKH1 mice to observe the irritation potential of products. The results suggested that non-irritative structures with sizes between 97 and 139 nm, almost homogeneous, with an important stability between 30 and 300°C were obtained.

Biography

Melania F Munteanu has completed her PhD at University of Medicine and Pharmacy Targu Mures, Romania. She is an Associate Professor at Vasile Goldis West University Arad (Romania), Health and Environmental Chemistry discipline– Pharmacy department. She has published more than 20 papers in reputed journals.

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